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THE WOMAN BEAUTIFUL

ELLA ADELIA FLETCHER

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TYPES OF BEAUTIFUL AMERICAN WOMEN.

See p. 25.

THE WOMAN BEAUTIFUL.

A PRACTICAL TREATISE ON THE DEVELOPMENT AND PRESERVATION OF WOMAN'S HEALTH AND BEAUTY, AND THE PRINCIPLES OF TASTE IN DRESS.

BY

ELLA ADELIA FLETCHER.

"I [illegible] help you to grow [illegible] beautiful [illegible] I meant you [illegible] when I thought of you [illegible]

[illegible] the health of women and the [illegible] of their [illegible] desires [illegible]

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The health of women and the purity and elevation of their tastes, desires, and ambitions, set the standard for the race.

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THE WOMAN BEAUTIFUL.

CHAPTER I.

THE SOURCES AND POWER OF WOMAN'S BEAUTY.

"Beauty is truth, truth beauty."

"'Tis not a lip, or eye, we beauty call,
But the joint force and full result of all."

"Time the shuttle drives, but you
Give to every thread its hue,
And elect your destiny."

A NOTABLE change in modern thought is the entirely different attitude, almost universally assumed, on the subject of woman's beauty. It is recognized now as a symbol of excellence within, and with this recognition comes a sense of personal responsibility for its possession. It is not so very long ago that there existed a certain prejudice—a sort of aftermath of Puritan influence—against the endowment of physical beauty, it being looked at askance as a dangerous gift. And neither girl nor woman could have devoted the thought and time to personal care which is now considered necessary without being charged with the heinous fault of vanity.

These end-of-the-century days, however, have freed us from the bonds of those narrow views which, totally misunderstanding the purposes of creation, looked upon all

things which contributed to human joy as snares of Satan to lure the children of men to sin; and pursued unhappiness with a zeal which we might well imitate in our search for happiness. The latter is now acknowledged by advanced thought to be a foundation-stone of health, without which beauty itself is but the flower of a day.

More and more in our generation are we coming to a realization that Beauty's mission should be an exalted one, because of the dominating influence it exercises; and to feel, consequently, that the truest beauty, that which is worth striving for, is an externalization of physical, mental, and moral excellence. Therefore we cannot overestimate the importance of its highest culture through the development of individuality and expression; these being the qualities that most greatly enhance and elevate its influence, and at the same time impart to it an enduring and lasting character.

If there were a woman who did not desire to win affection and love, she would be an abnormal creature whose idiosyncrasy must be accounted for on purely pathological grounds; with her we have nothing to do. It is simply human nature, a desire implanted in every normal woman's heart, to wish for admiration and love; and as soon as the girl-child is old enough to feel this desire, she is conscious that the most important means to the end is to be personally attractive. Her very earliest observations and intuitions teach her this fact: that Beauty's path through life is a sort of rose-bordered one, a royal progress; for to Beauty the world, big and little, high and low, pays homage. As the girl ripens into the woman, every experience in life teaches her that her share of its successes and pleasures will be in proportion to her own ability to win favor, to please, and that the first and most potent influence is physical beauty.

Desire is one of the misunderstood forces of Nature. It fixes ambition upon an object for which to strive, but it

affords not the slightest hint of the means which can aid us to achieve success; and this accounts for the many lamentable failures among those whose chief aim and ambition in life it is to be at least attractive, if not beautiful.

Assuming that it is not only the natural desire of woman but also her duty to please, in order to succeed, she must train herself to a critical nicety of judgment in choosing her means to accomplish this end. Her grave mistakes are in supposing that imitations, shams, or subterfuges can ever, even transiently, take the place of real charms or genuine emotions. As it will be my endeavor to prove, Beauty is more than skin deep, and such flagrant artifices as paints, rouges, and dyes, made only more conspicuous by combination with Fashion's most daring devices for attracting attention, can no more imitate it than a fragment of window-glass can imitate the diamond's lustre and purity. Every base substitute is sure to result in disastrous failure.

But a *résumé* of woman's mistakes is unnecessary here, for the whole purpose of this book is to discuss them and, while showing the means of rectifying these, point out the correct methods of fostering all womanly attractions. The Mohammedans have a saying that "To Eve God gave two thirds of all beauty." Not without purpose could Divinity have bestowed such power and consequent responsibility!

"The question of Beauty," Emerson says, "takes us out of surfaces, to thinking of the foundations of things." And it is certainly doubly true that we cannot consider the subject of woman's beauty and its cult without realizing that the first step to any accurate knowledge concerning this mysterious and dominating quality which exercises so powerful an influence both for good and evil upon mankind in every grade of life, is to study its sources and to seek in our turn to answer that baffling question, "What is Beauty?"

So closely inwrought with the warp and woof of the history of our race is the record of the influence of beauty that the two are inseparable. As far back as the chronicle

of human actions extends we find that the two forces most potent in moving the world, shaping the destiny of nations and the fate of men, have been beauty and gold. And when these two powers have been rivals, arrayed the one against the other, it has not been beauty that has yielded. But immediately we try to analyze this influence we find it is of two sorts: the one working disastrously for the progress of humanity, its whole course being marked by a fatal blight, like the trail of a serpent; and the other elevating and inciting to noblest purpose.

This first sort of Beauty, of the earth earthy, animated by no interest or desire beyond the pleasure of the moment and the gratification of the senses, feeds its vanity upon a succession of victims, and raises them for one brief moment to heights of bliss whose very exaltation renders but the more fatal and irrevocable their plunge into the depths of despair that follow. "Dearest Nature strong and kind," is swift to avenge the perversion and abuse of her gifts, and Beauty that fails to recognize in its wondrous power a means to higher aims than selfish pleasure and the gratification of idle vanity, runs a swift course; its goal, decay and ruin,—the inevitable result, the unavoidable penalty, for the reckless and mad expenditure of an endowment that was intended for good.

Mere physical beauty without high moral worth is but a shadow, a phantom, its hold as fleeting as the intensity of the passion it excites; and its history "is writ in blood," in tragedy and calamity that spread far beyond the originating cause; like ripples on the placid surface of the water when a pebble is tossed into it. The Helens, Cleopatras, and Lucrecia Borgias are examples of this fatal type.

But when beauty of person is united to beauty of character, the restraints of a high moral purpose regulate the emotions and lay the foundation for endurance, while an intellect that directs the exercise of these rare gifts places its refining stamp upon all the contours of the face and

lends a dignity and grace to every movement. These are the women who are the glory of history, of womanhood, and of our race. Ruskin says: "I could multiply witness upon witness of this kind upon you if I had time. I would take Chaucer, and show you why he wrote a 'Legend of Good Women,' but no Legend of Good Men. I would take Spenser, and show you how all his fairy knights are sometimes deceived and sometimes vanquished; but the soul of Una is never darkened, and the spear of Britomart is never broken."

"Shakespeare has no heroes; he has only heroines," Cordelia, Desdemona, Viola, and Virgilia, all are examples of loveliest women cast in the loftiest mould of humanity. If we go back to Grecian legend and story we find it gemmed with exalted types of heroic womanhood, each and every one of whom attained her influence over the hearts and destinies of men through the power of her beauty; but maintained it by intellectual and ethical force.

Again quoting Ruskin: "That great Egyptian people, wisest then of nations, gave to their Spirit of Wisdom the form of a woman; and into her hand, for a symbol, the weaver's shuttle: . . . the name and the form of that spirit, adopted, believed, and obeyed by the Greeks, became that Athena of the olive-helm and cloudy shield to whose faith you owe, down to this date, whatever you hold most precious in art, in literature, or in types of national virtue."

When we try to find out wherein this magic lies, of what qualities Nature so cunningly compounds the subtle thing which men call beauty, we find that philosophers have disputed over the question ever since the minds of men have been occupied in solving the problems of life, and no theory that has been propounded has ever been generally accepted. Your dry scientist never trusts theories. He wants facts. Never having discovered that higher self which is as superior to the material, physical house it temporarily in-

habits as light is to darkness, he ever distrusts his feelings, and has implicit faith in his physical senses. What he cannot see he does not believe.

The broadest minds, however, those which see beyond the dry facts demonstrated by science, and are aware that the most powerful forces of Nature are imponderable things, felt more than seen, accept as the clearest and most rational analysis of the marvellous power of beauty the claim that the secret of secrets is harmony.

This theory points out to us that the same principle is the foundation of all art and of everything that appeals to the loftier emotions and gratifies the senses. It is the inherent longing of the soul for harmony from which the cult of the beautiful springs. A cult which raises us above the mediocrities of life, the object for which all are striving, the well-spring of ambition, the spur to endeavor in all walks of life. Take this impulse out of it, and life would be barren indeed. Just in proportion as we are able to discover beauty in the objects which surround us, are we inspired to higher purpose and deeper joy in living.

Although, speaking generally, the standard of physical beauty is geographical and varies with clime and stage of civilization, yet among the most highly cultured nations of the earth, where the ethical influence of woman is increasing constantly, we find universal consent given to the selection of the Greek type as the highest standard of beauty.

Geometrical proportions, founded on lines which can be as exactly stated as tones in a harmonic chord, and which bear the same relations to each other, are the underlying principles, or primary laws, of all beauty. Just as the 1st, 3d, and 5th tones in a major scale form the tonic major-chord in music, so the circle, triangle, and square give us by the law of harmonic ratio the exact proportions for the beauty which enchants our eye. The vibrations of the monochord furnish the basis of this theory; and by drawing upon the quadrant of a circle a series of angles cor-

responding to the 1st, 3d, and 5th of the musical scale, we find the proportions for a head of ideal beauty. "By continuing the division of the quadrant to ten angles, and arranging these upon any given straight line equal to the full length of the figure, the true proportions of the whole body are obtained." The theory is extended, also, to color, making the three primitives, blue, red, yellow, the harmonic triad upon which all the harmony in painting depends.

But remember, in considering things animate, that the harmony of proportion in the human figure is only the underlying part, the frame as it were. Just as the musical chord must be heard to be enjoyed, so the harmony of mere line must be irradiated by the vital force, which softens its angles and undulates its curves, and the soul must stamp the flexile, sensitive muscles of the face with emotion and brighten it with the changing light of thought, before it becomes that thing of magnetic influence and power, all-conquering beauty!

Thus the harmony of form thrills the nerves of sight by a natural law of accord and vibrates upon them just as the harmony of sweet sounds does upon the auditory nerves. But though this, technically speaking, answers the question, it opens another. Of course there is the same difference in eyes as in ears. 'Tis a trite saying that no two people see the same thing or hear alike; and powerful factors in determining our impressions from external things are sub-consciousness and the strength of the imagination, according to the development of which in the individual depends almost entirely the pleasure of the senses. Consequently, certain types of beauty affect one person much more powerfully than another.

Beauty reaches its perfection in the human form, and its utmost exaltation in woman. The very quality, however, which charms most is and must remain forever indefinable, for it is a subtle, intangible something that appeals to the

imagination, and which analysis can never grasp. This it is that makes soulless, doll-like beauty as evanescent in its effect as the sea-foam. Ethical and spiritual power alone can stamp enduring impressions, for they stimulate the imagination, whereas the mere gratification of the senses soon palls.

Many are the forces, varied and complicated, ever at work making and marring beauty, considered in its purely physical aspect. Climate, diet, air, and water,—all are formative factors for good or ill; and these are more or less under individual control. Half the world, however, live their lives in utter ignorance of their vast importance; and it is not an ignorance that is bliss, for in respect to fresh air and pure water, alone, it results in a state of semi-starvation, from which the well-to-do and rich suffer quite as much as their poorer fellows. But back of these come heredity and prenatal influences, which brings us to the important question of personal responsibility for the improvement of the race.

It is curious that so many men—and women, too—interest themselves in the improvement of the brute creatures, and study laboriously the methods of crossing the seeds of fruit and flower to the end that the size and flavor of the one or the beauty and perfume of the other may attain a higher degree of perfection, yet never turn their attention to the effect which the same methods would have upon the development of the human race. In fact, to state the brutal truth, in a vast majority of cases pure selfishness, the comfort and convenience of the immediate present, is the ruling motive governing men and women in their unions, and not a thought is given to the rights of unborn children. What legions there are of these innocent sufferers who, had their consent been asked, would never have come into this sorrowing world handicapped with hereditary failings!

Earnest students of human science are a unit in giving their testimony to the belief in the formative power of

woman's thought upon her offspring. Melancholy, peevish, tearful women have fretful babes; cheerful, contented, healthy-minded ones are rewarded with happy children; the timid, nervous woman, starting at every sudden step, brings into the world wan little infants that are mere bundles of shrinking nerves. Napoleon I. was born in a season of strife and conflict. His mother spent much of her time during the months previous to his birth in the saddle, well-armed, and prepared to use her weapons in self-defense if need be.

In a well-authenticated case, from the union of two degenerates, a drunkard and an immoral woman, there descended in seventy-five years two hundred thieves and assassins, two hundred and forty-eight invalids, and ninety depraved women. Thus by injudicious marriages "a harvest of discord extending indefinitely beyond the bounds of time" is produced.

Emerson asks: "How shall a man escape from his ancestors, or draw off from his veins the black drop which he drew from his father's or his mother's life? It often appears in a family as if all the qualities of the progenitors were potted in several jars,—some ruling quality in each son or daughter of the house; and sometimes the unmixed temperament, the rank unmitigated elixir, the family vice, is drawn off in a separate individual and the others are proportionally relieved." This accounts for the occasional "black sheep" seen in families, often a source of great mortification to the other members, who fail to recognize in him a victim of vicarious punishment. Could they understand that their exemption from like faults was at his expense, they would be more tender toward the failings and peculiarities of their "black sheep."

The comfort and the recompense to woman when Nature imposes upon her so vast responsibility for the beauty, perfection, and temperament of her child, is to be found in the weapon it places in her hand at the same time for its de-

fense against the sins and imperfections of its forebears. By the power of suggestion—the earnest wish in her heart for the happiness and welfare of the child to be—the mother can create in the plastic mind so-called "artificial" instincts capable of holding in equilibrium hereditary instincts, and controlling ancestral habits.

"It is easier to mould molten than to file cold cast-iron"! and what is *organized* into us in a prenatal state is of vastly greater power in determining character than what is *educated* into us after birth.

The expectant mother should fix her mind upon images of purity and beauty, and hold herself in a glad and happy atmosphere, letting her imagination picture the future of her child filled with joy and gladness, usefulness and honor. She should be protected from all nervous strain or anxiety, and surrounded as much as possible with objects of beauty. One beautiful portrait, the impress of which is fixed firmly in the mother's mind, is sufficient to determine the features of the unborn child; a fact which has been demonstrated repeatedly. The mother is repaid many-fold for the exercise of self-control in the matter of fear and anxiety and avoidance of all nervous excitement by the serenity of her infant, who will thus start in the race of life with one, at least, of the prime factors for health and success.

To enforce this caution, here is an instance of the painful results of mental and nervous excitement: Students of heredity have remarked that the children whose existence dated from the horrors of the first French Revolution "turned out to be weak, nervous, and irritable of mind, extremely susceptible of impressions, and liable to be thrown by the least extraordinary excitement into absolute insanity."

Alternation of town and country life is the best means to promote, maintain, and preserve successive generations of robust, brilliant, and fine-looking men and women; the outdoor life, with its freedom and quiet, restoring the equi-

librium disturbed by the nervous strain from the rush and turmoil of town life. This follows the law that variety and change improve the health and hence promote beauty, and it has been remarked that prolonged continuance of a race under the same conditions tends to deterioration.

In some parts of Ireland where the Celtic population is almost unmixed, the people are short in stature and have small limbs and features,—an almost stunted growth; but in other counties where they have intermarried with English or with the Lowlanders of Scotland the race is greatly improved. The Scotch-Irish are remarkable for fine, tall figures, and possess great physical energy. The famous Irish beauties owe their charm and *esprit* to this crossing of races; and one of their most unusual types is that in which the loveliness of the Northern and the Southern peoples mingles, producing black hair with blue eyes, a glowing red-and-white complexion, and divinely tall, *svelte* figures.

Where the Russians and Tartars have intermixed with the Mongolians, a race of superior physical characteristics has developed; and the result of intermarriages in Paraguay between the natives and the Spaniards has produced a people said to be superior in physical qualities to either of the originating races. The leaders of thought and enterprise to-day in Mexico sprang from this mingling of good Caucasian and good Indian blood. President Diaz, under whose leadership Mexico has made such vast strides forward, and from being one of the worst-governed has become one of the best-governed, most progressive, and most prosperous nations in the world, is himself half-Indian, while his talented and beautiful wife is said to have even a higher proportion of Indian blood in her veins.

The prophecy has gone forth that the coming race, which is to be the flower of mankind, evolved from all the other dominating peoples, will be nurtured by the Pacific Coast. Already students of ethnology see in the natives of California

a near approach to this coming universal type. Several factors support this hypothesis and account for the phenomenon upon which it is based. The pioneers of the Golden State were men and women of quite exceptional physical vigor and strong mentality, and the hardships of the journey to that land of promise in those early days, as well as the first years of life in the new country, were so great that it was only the very elect of these who survived. Thus Nature in cutting down the weak and preserving the strong laid the corner-stone in her foundation for a physically perfect race. These original settlers were not alone the most energetic and enterprising people from the Eastern States, but also hardy adventurers from every clime and nation. For this reason the admixture of foreign blood in California is more complete and more complex than elsewhere in the United States. Every European type and nationality is represented.

Though the wherefore is still a mystery, the beneficial results of this crossing of races has long been recognized, and in California to-day the descendants of these mixed ancestors are pronounced the highest type, mentally and physically, of humanity on earth. Professor McGee, of the United States Bureau of Ethnology, says: "In California the intellectual elegance is on a par with the physical, but impresses me as more symmetric than sporadic. California has not produced many noted geniuses, but a vast number of its people are of more than average intellect."

The wonderful climate of the Pacific slope has also contributed no small part toward this physical superiority; for its genial nature favors outdoor life, and the perfume-laden breezes, wafted over its boundless wealth of aromatic herbs and blossoms, are both tonic and sedative to the nerves, while they stimulate the imagination and make every breath a joy. There are regions in the temperate middle coast and the foot-hills of the Sierras which are more favorable to the enjoyment of absolute physical health than any other part

of the world. It has been well-named the country for women and roses, for nowhere are they developed in greater beauty and perfection. The women are tall of stature, graceful and lithe, by virtue of the elixir inhaled with every breath in the open; have "cheeks and throats that take no shame beside the roses that they wear, lips that have the true ruby gleam of health and pure blood, and eyes of starry fire."

If a nearly perfect climate produces such results, it follows that the temperate zones are more favorable to health and consequently beauty than extremes of either heat or cold. Beauty, however, basks in warmth and genial skies, and can better endure a high temperature than a low one. Nothing so disturbs the circulation of woman as prolonged exposure to severe cold. She should never allow her feet or hands to become stingingly cold, and to sit in a cold room till "chilled to the marrow" is to woo sickness and a bad complexion.

In our Northern clime, women and girls sow the seeds of disorder in the early autumn evenings when the first sharp frosts come. The tingle in the air is enjoyed by some, but the benefit of its stimulating ozone is lost if the body be not well protected against its chilling influence. I am far from inculcating over-care, or advocating measures which would render anyone weakly sensitive to exposure. These are simply the precautions which protect and consequently render stronger. Abundance of fresh air and pure water are the first essentials for health, building up strong bodies of materials so pure as to manifest themselves in external beauty; and daily exercise, in sunshine or rain, renders these bodies supple and graceful.

When the women of a region are specially noted for their fine complexions, investigation proves that the water-supply of the locality is of unusual purity. Next to the air we breathe, no one thing has so powerful an influence upon the structure of our bodies and the texture of the flesh as

the water we drink. To the prevalence of lime-water in Texas and Kentucky has been attributed the unusually tall stature of their people. Emerson says: "It is the soundness of the bones that ultimates itself in a peach-bloom complexion; health of constitution that makes the sparkle and the power of the eye. 'Tis the adjustment of the size and of the joining of the sockets of the skeleton that gives grace of outline and the finer grace of movement."

Whether beauty be as evanescent as the legendary vapor which Psyche brought from Hades when sent there by the gods for a fragment of the alluring thing, depends altogether upon the mental and moral qualities of its possessor. The highest development of physical beauty is the result of correct living and high thinking, and without these the most exalted type that chances to be bodied forth in flesh and blood must prove almost as ephemeral as a passing dream. The most exquisitely moulded features if devoid of intelligence would arouse aversion, and the soulless face excites this emotion in only a lesser degree; for "Every spirit makes its house, and we can give a shrewd guess from the house to the inhabitant."

The first lesson to be learned, therefore, by the girl or woman who seeks the development of her own beauty, is that enduring beauty comes from within, that lovely thoughts create curves of loveliness in face and form, and that the more susceptible she becomes to their elevating influence, the greater is their vitality, and the more effec-itve the work of the refining chisel. A keen and sympathetic interest in humanity, an appreciation of all that is great and good, and a broad charity for its faults and follies,—these are subjects that open to the mind a wider horizon and enable us to see beyond the belittling cares of life, which, though they be but mole-hills, assume, when dwelt upon, the proportions of a mountain.

Don't study so much the shape of your nose as the thought which brings a sparkle to your eye; cultivate an

intimate knowledge with the emotions which chronicle themselves in attractive curves in your all-too-plastic features.

> "Thoughts are like atoms, fashioned by the will;
> Each has a mission charged with good or ill;
> Sometimes to bless; anon to desolate;
> Love's messenger; or harbinger of fate."

Happiness is a marvellously effective sculptor, and the secret of it lies within ourselves; faith, love, and charity are a trinity of beautifiers that shape and perfect a character of such charm that it makes a plain face lovely and a beautiful one simply irresistible.

Of all the moulding forces ever at work making and marring beauty, none rewards its assiduous cultivation with such usurious interest as that of spiritual activity. It is the link within us which connects us with divinity, and, therefore, the source of all vital energy; and under its influence mental and physical health and growth are as spontaneous as the germinating of seeds in the warm bosom of Mother Earth under the glowing rays of the sun. The dwarfing of the soul is the dwarfing of the body; in its development lies every woman's freedom from the chains of self which confine her to the petty irritations and sordid interests that strew her daily path and seam her face with haunting wrinkles.

Soul-force, which is inexhaustible and increases in power in direct ratio to its use, is the great irradiator. From it spring enthusiasm for all good purpose and high endeavor which illuminate the whole face with that light that never dies. This is the secret of "The divinity within us that makes the divinity without."

One of the most beautiful women of this century was Queen Louise of Prussia, and in mature life this noble tribute was paid her by her brother: "My heart tells me that the ravishing beauty with which nature has endowed

you is only the reflection of an adorable soul. . . . We all look upon you as the embodiment of perfect love and perfect goodness." The well-known New York artist Mr. J. Wells Champney gives as his ideal of the highest beauty, "Not the perfectly modelled face, but one that is mobile enough to reflect each passing thought; a face like pellucid water in the sunlight; one that is merely a veil over the soul."

And Ruskin, than whom, perhaps, no student of art and humanity ever studied more thoroughly or from a higher plane the subject of woman's beauty and influence, summed up what he considered "a perfect description of womanly beauty" in these words:

> "A countenance in which did meet
> Sweet records, promises as sweet."

Health, beauty, intelligence, and goodness form an influence before which all humanity bows in homage and obedience. To it nothing is denied, and it acts as an electric force upon all sensitive temperaments; stimulating genius to its most dazzling achievements, and rousing lower natures to climb to greater heights of thought and effort.

"To the materialistic philosopher," says that introspective writer, M. Amiel, "the beautiful is a mere accident and therefore rare. To the spiritualist philosopher the beautiful is the rule, the law, the universal foundation of things, to which every form returns as soon as the force of accident is withdrawn. Why are we ugly? Because we are not in the angelic state, because we are evil, morose, and unhappy.

"Heroism, ecstasy, prayer, love, enthusiasm, weave a halo round the brow, for they are a setting-free of the soul, which through them gains force to make its envelope transparent and shine through upon all around it. Beauty is, then, a phenomenon belonging to the spiritualization of

matter. . . . As a powerful electric current can render metals luminous, and reveal their essence by the color of their flames, so intense life and supreme joy can make the most simple mortal dazzlingly beautiful. Man, therefore, is never more truly man than in these divine states."

"Man" is used here in a generic sense, meaning all mankind, and the assertion applies especially to woman, whose veil of mortal flesh is so much more transparent than her brother's, and consequently reflects so much more vividly every emotion of her soul.

It may seem a contradiction, but it is possible to be lovely without being beautiful; and that personal attribute which carries all before it with the same irresistible force as beauty, fascination, is largely the result of culture. Don't think for a moment that it is a mere trick of graceful poses or wherewithal you shall be clothed. The external things are all valuable accessories, by no means to be depreciated, but secondary to what you do. "Actions speak louder than words," and the reason is that they are the title-page and full index to your heart and mind. It is by the beauty of these—the outward expression of your thoughts—that you shall charm. They make the atmosphere which surrounds you, and in which you are a prisoner for life. Your soul shall easier walk out through your eyes and confront you with a twin personality, than you shall escape your atmosphere; and it depends upon yourself whether it shall attract or repel.

A gentle courtesy to all humanity, and especially to the weak and lowly, tenderness for all suffering, appreciation of all that is good and noble, sympathy with heroic actions, and a large compassion for human failings,—these create an atmosphere that makes a veritable halo round your head, and attracts to you the best minds and the rarest natures. The lovely and encouraging fact about it is, too, that this sort of charm develops so rapidly when given the right encouragement—the nourishment, so to speak—and

it never fades, but increases with use, experience, and years. Happiness is a wonderful beautifier; "it does away with all ugliness, and even makes the beauty of beauty."

It was this sort of charm which Dr. Oliver Wendell Holmes had in mind when, after expressing his mind freely upon the type of woman he personified in "The Model of all the Virtues," he said: "But a woman who does not carry about with her wherever she goes a halo of good feeling and desire to make everybody contented,—an atmosphere of grace, mercy, and peace, of at least six feet radius, which wraps every human being upon whom she voluntarily bestows her presence, and so flatters him with the comfortable thought that she is rather glad he is alive than otherwise, isn't worth the trouble of talking to, *as a woman;* she may be well enough to hold discussions with."

The fear has been expressed that the present devotion of woman to all manner of out-of-door sports and to gymnastic training will result in coarseness and overdevelopment of muscle, enlarged bones and loss of the graceful curves which the delicacy of certain parts of her frame has heretofore secured, and which has been one of her greatest charms. But this alarm for the future of woman's beauty is ill-considered, and formed from a narrow and prejudiced standing-point. It is only worthy of mention here in order to convey a caution.

Of course, exercise can be abused; but so can every interest in life, mental, moral, and physical. All depends upon the good sense of the individual. But, with the sole exception of bicycling, over-devotion to which has encouraged certain unattractive peculiarities of expression and development (concerning the benefits of cycling, I shall have much to say), neither exercise nor higher mental culture are the influences which have produced the coarse, vulgar woman of whom we are none of us proud. She is the product most frequently of gormandizing, and of sub-

mission to the influences of coarse and degrading things, chief among which are the so-called "realistic" drama and novels. You cannot touch pitch without being defiled. Dress, too, for the last half-decade has been demoralizing in its tendencies, but this will be fully discussed in the chapter devoted to that subject.

Coarse mouths with heavy lips are made so by coarse thoughts and ugly tempers; and over-feeding spoils more complexions than sun and wind. A foolish ambition to achieve "century" cycling trips may broaden the foot and enlarge the ankle, but fleet running over the greensward will train both to the loveliest symmetry. I have yet to see the girl or woman who has exercised regularly in a gymnasium, under wise and skillful direction, who has not thereby developed a trim, shapely, agile body, light and graceful in motion, with those rhythmic undulations of curves which are the expression of perfect, harmonious development. If now and again some over-zealous girl has exaggerated the plumpness of beauty, the vigor of a Diana, to brawn and muscle, blame her indiscretion, not the theory nor the system. And don't say that the bicycle demoralizes and coarsens women, because it carries some into associations which make them bold, and gives to others a tense, unlovely expression. There are, alas! always some natures who find a way to pervert the good. And, always, the croaker and the pessimist are at hand, who, looking through their gloom-veiled visual organs, invariably see the evil before the good.

In the rebound from over-suppression, from those unnatural self-imposed restraints of Puritan and Pilgrim alike, who believed all happiness whatsoever to be sinful, it is, perhaps, only fulfilling the law of averages that some shall go to the other extreme, and pursue pleasure with equally mad unreason. It certainly should surprise no one that, with such ancestors, the American people are intense in their temperament. The outlook through the open gates

being so entrancing, it is but natural that some should throw down all the fences. But the whole tendency of the age is looking towards an adjustment of the differences—these extremes—and the finding of that happy medium which shall reconcile them and elevate all humanity to a higher plane, mentally and ethically.

The utmost expression of vigor is perfectly compatible with the most refined beauty, and is in itself beautiful, being the visible expression of health. Coarseness, however, has the opposite effect, being an enemy and destroyer of natural beauty. We see this in certain classes, oftener seen abroad than in this country, who, from an unwise manner of living, change from delicate, refined beauties, in their teens, to grossly coarse women before they reach the age of forty. Many charmingly pretty young girls have I seen handicapped by the chaperonage of such mothers, who fondly pointed out the daughters as images of themselves at that age. Looking at the mothers, I always think it must take a daring man to woo the daughters, with so awful a warning of the possible future before him !

Now, the culture of perfect womanhood, to which more time and rational thought are being given in our day than since the period of the ancient Greeks, has laid down as two of its tenets that there is an even greater beauty of maturity than of youth, and that there is absolutely no valid reason why women should cease to be attractive. When a woman allows all her youthful beauty to disappear and every natural advantage to degenerate, she is, through neglect, ignorance, perhaps, and gross carelessness, defrauding herself and, probably, those very dear to her of many of the pleasures of life, and of opportunities to form those valued friendships which, when life is understood, are recognized as among our greatest privileges.

Certain characteristics of beauty may be accepted as its sign manual the world over,—a cosmopolitan thing before which Englishman and Maori, Frenchman and Zulu alike

bow. These are a well-developed, graceful figure; a skin of fine texture, be it *brune* or blonde; regular features, with slender, straight nose and well-formed upper lip above a round chin; large eyes, under narrow, arched eyebrows, and shaded by long, curling lashes; delicate, small ears, set close to the head; abundant, glossy, well-kept hair; and delicate, well-proportioned hands and feet.

It is noticeable that not all of these charms reach their maximum in youth; that none of them need fade with maturity; and that many of them, if lacking, may be acquired. The eyes do not attain their greatest beauty till experience has developed character and the soul has learned how to express itself.

> "From women's eyes this doctrine I derive:
> . . . . . .
> They are the books, the arts, the academies,
> That show, contain, and nourish all the world."

"A healthy body is good; but a soul in right health,—it is the thing beyond all others to be prayed for; the blessedest thing this earth receives of Heaven." And as the soul enjoys perennial youth, a woman may retain her youthfulness in proportion to the intimacy she cultivates with her own soul. It is from this silent companionship that the irradiating beauty, the "unspoken mystery of expression," comes; and this creates that highest type of beauty which can no more be defined than we can grasp the soul and hold it. In rare moments this mystic seal becomes so luminous, that we feel as if an archangel's wing had brushed past us.

In searching for the best that is in you, you must do it with a will; not languidly and intermittently. You must be your own severest critic, setting about the task with a firm resolve to correct errors and develop and set off to advantage every natural attraction. Over-sensitiveness with reference to some defect and vanity are grave faults

which cause much trouble and raise dangerous barriers to success in all efforts to please. If you are fortunately dowered with beautiful hair and eyes or a rose-leaf complexion, be grateful, and have the same joy in them that you would in the possession of a beautiful picture; but shun vanity, for a whole train of evils are its parasites, and the tale of the lives it has wrecked would be grewsome.

Take a large and wholesome pleasure in every attraction you are able to develop, as by so much will your sphere of influence be widened. When you take stock of your personal attractions, examine your manners as rigorously as you do your physique. Good manners are the oil upon the machinery of life, which keeps the whole social fabric running smoothly; in fact, they eliminate the machinery; for it is only when they are lacking that by its consequent creaking, jarring, and irregular working we are made conscious of the underlying mechanism.

A gracious, perfect manner is impossible to analyze. It is a compound of tact, thoughtfulness, premonition, consideration, sympathy, and *savoir faire*. But it will win for a woman almost as much as beauty can, and more than is conceded to a beauty that is handicapped by ill-breeding and vanity. The higher the grade of true culture,—that culture which refines the heart while it broadens the intellect,—the more we recognize the ethical beauty of the French motto *noblesse oblige*.

The perfect manner has an intangible charm which wins for its possessor the admiration of friends and the devotion of servants. It recognizes that the higher its social or worldly position is, and the fuller its opportunities, the greater are its obligations to all humanity. Its smiles and thanks for the courtesies and attentions of daily intercourse penetrate some natures like a ray of sunshine on a gloomy day, and trebly outweigh in value the grudgingly bestowed *pourboire* of the haughty giver.

There is no obligation in life which is so frequently vio-

lated by the very class who should be most punctilious in fulfilling it, as that ethical one which requires that all should do their part to make life pleasanter and better for all with whom we come in contact. Remember that

"Good, the more
Communicated, the more abundant grows."

And nothing betrays the true gentlewoman so eloquently as her contact with inferiors and strangers. She never forgets what she owes to the "gentle"-ness of her womanhood. When she emerges from her room, her morning greeting to every member of the family, including servants, is like a benison; and never forgetting courtesy and consideration for others, she seldom fails to receive it herself. Even the rude and surly yield before her sweet graciousness, and pay her a deference that constraint could not extort.

Train yourself to recognize an ill-bred tone, an awkward movement, and everything that betrays hardness and coarseness in thought and character, and when you find them avoid them; for mind and taste grow delicate by shielding from disagreeable contacts and by association with refined and harmonious things.

Emerson found in chosen men and women "somewhat in form, speech, and manners, which is not of their person and family, but of a humane, catholic, and spiritual character, and we love them as the sky. They have a largeness of suggestion, and their face and manners carry a certain grandeur, like time and justice."

The peerlessly beautiful Mme. Récamier was one of these rare natures; and it was by the charm of her manner, the rare loveliness of her character, the tenderness of her friendships, that she retained to an advanced age her wondrous power over human hearts.

CHAPTER II.

THE EVOLUTION OF TASTE.

"Remember that to change thy mind and to follow him that sets thee right, is to be none the less the free agent that thou wast before."

"Doth perfect beauty stand in need of praise at all?"

WHEN we come to consider the present type of woman's beauty, we find that here also the last quarter of the nineteenth century has witnessed a wondrous change; one which, though it seems gradual to us, will, when viewed in the historic light, appear phenomenally swift and radical. We can put ourselves somewhat in sympathy with this point of view—sufficiently so to understand its significance—if we look backward to the closing years of the last century or the ante-Victorian Period of the present.

A quaintly interesting object-lesson for our purpose is afforded by an examination of Burke's "Portrait Gallery of Distinguished Beauties of the Courts of George IV. and William IV." Among all these fair dames who smile upon us so blandly only one, Elizabeth, Duchess of Sutherland, has a perfectly modern type of face. Exaggeratedly small mouths and chins are the rule, and extremely prominent noses, which are also usually very long. The prevailing style of hair-dressing, surrounding the face with awkwardly arranged, stiff curls, was both trying and frivolous. With the exception of the Duchess of Sutherland, very few of these women would be considered beauties in our day, and

some are positively ugly. Miss Jane Porter, the writer, has an attractive, refined face, with a strong and regular profile; but, whether actually so disfigured or not, is given a crane's neck and throat by Harlow, who painted her portrait. Lady William Montagu is a pretty woman; but her bright, attractive face is disfigured by the grotesque outlines into which her hair is distorted.

The characteristics, as a whole, are weakness and insipidity and an extreme artificiality. Of course there are exceptions, and sometimes a noble brow is spoiled by a weak chin, and a fine pair of eyes by an unlovely expression. But among them all there are few faces that would receive a second glance if placed in a group of pictures of acknowledged beauties from any one of the large social centres in the United States.

Our frontispiece shows some of these lovely types of American beauties. They are reproduced from paintings of the Muses, by Giuseppi Fagnani, which are owned by the Metropolitan Museum. The young women who sat for these pictures were chosen from the North and the South, the East and the West, and their charms were so exceptional at that period, the early '70's, as to give them great distinction. We recognize them now as hints only, *des avant coureurs*, of Nature's intentions for the race, of the excellence towards which she was moulding all.

To resume comparisons, the portrait of the famous beauty, Nell Gwynne, by Sir Peter Lely, shows a pink-and-white face with regular features and an enigmatic rather than pleasing expression. Her large, lustrous brown eyes have a hard look, but doubtless could do great execution. The mouth, though a cupid's bow, is tiny to the point of absurdity; looks as if it never uttered more than "prunes and prisms" and had never been disarranged by an emotion; and the chin is insignificant. The dark brown hair is simply arranged, detracting nothing from the face, but, also, too severe to add a charm. Altogether, as one studies the

portrait, one is convinced that the noted Nell's chief source of fascination was in her exquisitely shaped, delicate hand, over which the artist evidently lingered with lovingly painstaking brush.

For a half-century, more or less, this type of small-mouthed, large-nosed women, oftener than not with preposterously long throats, and rendered at certain periods extremely unattractive by eccentric styles of hair-dressing, can be studied in the portraits and ideal pictures of the period. Decade melted into decade with hardly a distinguishing feature.

Then came forty years in the middle of this century, when the standard of taste was deplorably bad, for it affected the very foundation of all true beauty and happiness. Sylph-like fragility was the order of the day, and, despite the shafts of ridicule aimed at her follies, woman went from one extreme to the other. Her solemn arraignment by stilted moralists who cited the list of her heinous offenses against good sense and health, excites our liveliest mirth, for the manner of the philippics is as absurd as the deeds inveighed against.

We fortunate women whose lot is cast in the closing years of this wonderful century, find it hard to believe that our grandmothers and great-grandmothers could have been guilty of such follies as are laid at their door. Their paper-soled satin shoes almost forbade out-of-door exercise; and a milk-white pallor and a proneness to faint on every and any occasion were distinguished marks of delicacy, as coveted in that era of transition as the winning of a golf-challenge prize is in our day.

It was decidedly vulgar for a girl or a woman to possess a healthy appetite, and a mark of refinement to live as nearly on air as possible. The cult of Byron, whose delicate poetical sensibilities were shocked by the association of a pretty woman and food, is said to have been one of the originating causes for this folly; but it was an insidious

poison that took deep root, and spread from branches like a banyan tree, so the deadly influence was felt for decades. It was also considered vulgar in those days for a woman to know anything about her physical self; and this ignorance led to grave indiscretions which often wrecked the health of the victim and entailed disease on future generations.

The natural result of such misdirected efforts was to produce, as the ultimate expression of "lady-like" beauty, an ultra-etherealized type which came to be recognized in England and on the Continent from its delicacy as American. Not that these follies of the period were confined to America, but climatic influences together with the intensity of temperament here tended to produce the most extreme type in our country.

In the Far East, among the peoples who hold limited intercourse with the outside world and for whose women it has no existence so to speak, fashion is an untranslatable word, and taste as unchangeable as the laws of the Medes and Persians.

With the exception of a few royal harems where the glamour and beguilement of Parisian gowns and confections has penetrated, and consequently perverted natural taste, the peculiar Oriental costumes, every one possessing distinctive national features, have been as permanent and unchangeable as their art, their habits, and their religion. In keeping with this stability of influences, the type of Oriental beauty is invariable.

An Armenian writer thinks it "not easy to form an idea of the beauty of Turkish ladies. They may be regarded as the prototype of female beauty." Large, dark, languishing eyes, dazzling complexions, well-turned chins, perfect profiles, supple, straight forms inclining to *embonpoint*, and luxuriant masses of glossy, dark hair, described the Turkish beauty centuries ago and describe her to-day.

She looks with unfeigned horror upon the abnormally

small, pinched-in waist of the Occidental woman, which is as repugnant to her ideas of sense and beauty as the deformed Chinese foot is to ours. In some parts of the East, beauty is estimated by avoirdupois, and it is said that the choicest beauties brought from Circassia and Georgia are those that to fine features unite more than common plumpness. There are some tribes in Central Africa where the perverted taste for excessive corpulence is carried to such an extent that the "beauties" have to be supported when they walk abroad, their flesh hanging like pendent bags from their arms and legs.

The fashion in heads among different tribes and nations has marked their progress in civilization. The ancient Scythians regarded a high, cone-like, or sugar-loaf-formed head as a mark of distinction; and among the early Portuguese abnormally long heads were admired. Savage tribes have resorted to mechanical devices to alter the normal shape of the head, especially subjecting the forehead to distortions, and persevered in the practice till the deformity became a hereditary tribal peculiarity.

Early Greek taste is credited with preferring a rather high forehead; and the Greeks developed what we recognize to-day as the ideal head, symmetrical in contour, every part harmoniously balanced, and rather small than large. But the Romans cultivated the low, beetling brow and could even see beauty in united eyebrows. Ovid, that garrulous Pepys of his day, assures us that women who could not make their eyebrows grow together painted them in such a manner as to imitate the deformity. Modern taste finds those famous women, Faustina, Sabina, Domitia, and Plautilla, absolutely detestable in their ugliness.

One is driven, involuntarily, to draw a parallel between the physical distortions cultivated among savage races and the follies of Fashion which give temporary vogue to equally as absurd deformities; a proof that there is a lingering taint of the savage and barbarous which civilization has

not yet succeeded in exterminating. But it is daily becoming a greater sin to commit offenses against true beauty, because more and more our opportunities are widened for the acquirement of knowledge which supplies us with the data necessary to distinguish between the true and the false.

The utter unconsciousness of many women of their best points is deplorable. There hardly exists a woman so handicapped by Nature that she has it not in her power to achieve a measure of attractiveness. If the prevalent modes are inimical to her—in any degree unbecoming and distorting—she must study to so modify them as to adapt them to her use. For this culture of beauty, though it begins with the health of the body, extends to every outward expression of the soul which inhabits it; just as the building made by hands must rest upon a secure foundation and have an accurate, harmonious framework, but its architectural beauty will be made or marred by every external detail. Refinement of thought breeds refinement of feeling and delicacy of discrimination; and with the culture of taste comes the independence of character which gives the courage to break the links of self-forged chains, binding us in ignorance to the unthinking herd, who play the game of "All we like sheep" with blind disregard for the follies of the leader.

We are still in a transitory stage; and taste advances slowly, interrupted by depressing periods of retrogression, while the perfect creature is being evolved. But the lesson from this retrospective glance and brief study of eccentricities of taste is really very encouraging. We are bravely over the days of eating slate-pencils and pickles to encourage pallor; and, for the first time in that autocratic dame's history, Fashion has united with common sense and given such a vogue to the worship of Hygeia that more has been accomplished for the improvement of the race in scarce two decades than any half-century has wrought before.

This cult of Hygeia has gone hand in hand with woman's

higher mental development, and may be rightly considered one of the first fruits of the latter; for with the disciplined mind came broader sympathies and a wider outlook, which necessarily roused a keen desire for the strength that alone made possible the fulfilment of the ambitions excited by the extended horizon. Though the cult has not always been wisely pursued, and we are passing through an era of almost countless health "fads," yet nearly all of them contain precious germs of improvement.

By the common agreement of artists the Greek proportions have been accepted as those of the ideally perfect woman. These require that her height shall be five feet five inches; and when her arms are extended she should measure exactly her height from the tip of one middle finger to the other. The length of her hand should be a tenth of her height; her foot just a seventh; and the diameter of her chest a fifth. The perineum should be the medial point in the stature, and the knee should come exactly midway between the perineum and the heel. The length from the elbow to the middle finger should be the same as from the elbow to the middle of the chest. From the top of the head to the chin should be the length of the foot, and from the chin to the armpits the same measurement. With this given height, the waist should measure twenty-seven inches; the bust, under the arms, thirty-four inches; and measured outside of them, forty-three. The upper arm should be thirteen inches in circumference; the wrist, six inches; the thigh, twenty-five; the calf of the leg, fourteen and a half; and the ankle, eight inches; and the weight which this frame can gracefully carry is one hundred and thirty-eight pounds.

The Arabs have a curious code which expresses in a formula of coloring and shape their ideal of womanly beauty. It differs but slightly from Occidental tastes. These parts should be black: hair, eyebrows, lashes, and iris of the eye. White: skin, teeth, and sclerotic of the eye.

Red: tongue, lips, and cheeks. Round: head, neck, arms, ankles, and waist. Long: back, legs, arms, and fingers. Large: forehead, eyes, and lips. Narrow: eyebrows, nose, and feet. Small: ears, bust, and hands.

Lady Duff-Gordon thought the Arab women on the Nile, "sweet, attractive things, all smiles and grace." She found them very charming upon acquaintance, and makes frequent reference to the superb forms of both men and women, which she considered as perfect as a Greek statue. Of their manners she wrote: "The meanest [poor, that is] man or woman of good Arab blood has a thoroughbred *distingué* air."

The German scientist, Dr. Stratz, who has made a life-study of the beauty of women of all nations, considers that he found the most perfect and harmonious development of form among the Javanese. His ideal proportions differ from the Greek slightly, and he calls his the "normal proportions" of the perfect woman, deduced from averaging the measurements of many finely formed women:

"The height should be seven and a half times the length of the head, ten times the length of the face, nine times the length of the hand, and six to seven times the length of the foot. From temple to temple the measurement should equal the length of the face. The arms should be three times the length of the head, and the legs four times; and the shoulders should be two heads wide. When standing erect, perfectly developed legs should touch at the thighs, the knees, the calves, and the ankles."

When we look for the prototype of the most beautiful women of to-day we have to turn back to the art of the fifteenth and sixteenth centuries. In the Straedel Gallery, at Frankfort, there is a Madonna by Alessandro Bonvicino for which one of our famous beauties might have posed. It is an exquisitely modelled modern face, of great nobility and dignity. Donatello's alto-relievo bust of Saint Cæcilia shows an exquisite face of the noblest Grecian type, irra-

diated with modern thought and spirituality. And the Eve, of Ghiberti, in his wonderful doors to the Baptistery in Florence, is a similar type. Very noble, also, and almost as beautiful, even in the trying media of majolica, is the Holy Mary in Andrea della Robbia's alto-relievo of "The Coronation of Mary" in Siena.

Somewhat similar, though the mouth is smaller and the chin not so strong, is Michael Angelo's Madonna of the Steps, a marble in very high relief in the Casa Buonarroti, Florence. Some of Paul Veronese's models are also of modern type, and Botticelli's Birth of Venus, in the Uffizi, might be the portrait of the average pretty American girl seen any day, but for the fact that the chin is weak and there is not so much character as in the other examples cited. The contours are regular, however, and the expression bright. People who know their Paris well will, doubtless, remember Jean Goujon's beautiful marble figures on the Fontaine des Innocents, which represent strong and quite modern types of countenance.

Now, the interesting fact to the woman of to-day is that could a magician's wand body forth in flesh and blood the various lovely models who posed for these masterpieces of the world's greatest artists centuries ago, they would certainly find their counterparts in the beauties of this generation; and, perhaps, even be outshone by some. Yet for many and many a long year a search for their equal in pure beauty and charm would have been as difficult a task as for the hopeless needle in a hay-mow.

The reigning English beauty of this closing season of the nineteenth century created a positive furor at a recent ball, in London; her entrance breaking up the waltz in progress at the moment. Even allowing for the glowing enthusiasm of British society, which worships before the shrine of Beauty with all the ardor of the ancient Greeks, Miss Enid Wilson really enjoys the distinction of expressing in her fair self from crown to toe that absolute perfection of ideal

MISS ENID WILSON.

beauty which is fit to crown this century of wonders. Her beauty is said to be of a kind that makes women forget to envy. She is tall, with a graceful figure developed by all manner of outdoor sports, in which she excels. Her light-brown hair, rippling in undulating waves all over her perfect head, is so abundant as to recall Lady Godiva's veil of tresses. She has the dazzling red-and-white complexion which the genial moisture of the English climate favors; and long lashes shade her soft, hazel-brown eyes, which flash with kindly humor and fun.

> "A lovely lady garmented in light
> From her own beauty."

By common agreement it is decided that only two English beauties can be compared with Miss Wilson, and the women thus distinguished are the late Duchess of Leinster, whose lovely face is so well known in this country, and the famous, never-to-be-forgotten Duchess of Devonshire. Now, to award Miss Wilson only her due, she is a much more beautiful woman than the one-time idol of the British public, unless Sir Joshua Reynolds lost all his cunning when he painted her portrait, and it is difficult to believe that he twice failed to do her justice; but unless he did Gainsborough idealized her, and it is only as the latter portrayed her that she can be compared to our end-of-the-century beauty.

Miss Wilson is not of noble birth, hence not the product of generations of high-breeding and culture. Her father, a multi-millionaire, is the son of an old sea-captain, of Hull, England, who founded a great line of steamships which encircle the globe. She has, of course, had the advantage of all that wealth could do for the promotion of health and the all-round culture of the perfect human being. She is likely to be *fêted* as much as ever was the noble Duchess. Already her fame is spreading among all classes, and wherever she goes she is almost mobbed by curious and

admiring gazers. Every courtly drawing-room in London, every country-house in England, entreats her presence as an honored guest; and if the sweet young girl, yet in her teens, be not spoiled by the homage laid at her feet, it will be because she is dowered with something even more precious than her beauty, a noble character.

Other examples could be cited nearer home, but if I mentioned New York beauties, I must also enumerate some from Boston, others from New Orleans, and not omit Baltimore, Atlanta, and San Francisco, and I can't make this a mere catalogue of a beauty show. One queen-flower, for whom we could find many mates, suffices to prove my argument.

These are the consummate flower of twenty years of endeavor looking to the improvement of women mentally and physically, and who shall say that the results are not wonderful?

Take heart of grace, every mother's daughter, and study the methods which have wrought such a glorious change. The way is open to all. Learn first that the corner-stone of beauty is health; and next, intelligence and trained taste, able to distinguish between the forces which work for good or ill, with a keen eye to personal defects which must be recognized before they can be corrected. With every effort in every field of endeavor the battle is half-won when we have learned our weakest point, for it needs only the will and knowledge of ways and means to overcome it.

The women of to-day have much to be thankful for in the fact that the standard of taste is so much higher now than it was even a generation ago. A self-appointed autocrat of "female beauty," writing in the middle of this century, and evidently voicing the opinion of his masculine contemporaries, pronounced in strongest terms the judgment that the "intellectual system of beauty" in woman was less attractive than the vital. According to his theory, mental attributes strengthened the *will* in woman and made

her less yielding,—a grave disadvantage to her lord and master; but since his time men have discovered that ignorance and obstinacy are Siamese twins, and that a stubborn will is altogether a greater menace to domestic happiness than one which is guided by a well-trained intellect.

The so-called "vital" type of beauty is represented by Venus; and the autocrat's ideal was the Venus of Medici, whose shrinking self-consciousness, perhaps, increased her charm to him; but in our eyes compels her to yield first place to the peerless Venus of Milo, who, even mutilated as she is, stands majestically forth in the perfect harmony of magnificent, unconscious womanhood.

The superb Grecian Dianas were types of active beauty, seeking their highest pleasure and development in out-of-door sports and scorning any Venus-like timidity and weakness; while the noble Athena (Minerva) was the Greek's ideal of exalted mental beauty; that is, the autocrat's dreaded "intellectual system."

Although men formerly feared these women of higher mould—the Dianas and Athenas—they are learning the lesson well that the higher the type of the woman, the greater her all-round development, the better she is fitted to fulfill all the duties of womanhood; and that it is through these noblest examples of

> "A perfect woman, nobly planned,
> To warn, to comfort and command,"

that the prophecy of that superior coming race will find its fulfillment.

On woman is all responsibility for the elevation and perfection of mankind. But never forget that men do not want pure reason from women. "Brain-women" must learn to warm the currents of their "nice, calm, cold thought" by making them "travel to the lips *viâ* the heart." Thus will they glow and throb with woman's sympathy, transforming them and imparting such vitality that they gain treble

the power of conviction. The woman without sympathy, hard and cold to herself and to all with whom she comes in contact, is a false note in the harmony of life.

It is conceded that Nature is making perpetual efforts to attain perfection and beauty; therefore, beauty should be recognized as the normal state; and deviations from it are usually marks of ancestral errors; though sometimes the result of ignorant training or the want of any direction and restraint. "Faces are rarely true," says Emerson, "to any ideal type, but are a record in sculpture of a thousand anecdotes of whim and folly. . . . The man is physically as well as metaphysically a thing of shreds and patches, borrowed unequally from good and bad ancestors, and a misfit from the start."

We can every one of us prove this in our own experience, recalling eccentricities of bearing, walk, and gesture, and facial expression which pass through whole families. It would be a most discouraging factor in the problem we are studying did we not know of what plastic matter these bodies and minds are fashioned, and that our every effort to perfect them is aided by our ever-kind mother, Nature. Every defect of manner can be cured as soon as its originating cause is understood. Mannerisms of speech and bearing, facial quirks and grimaces, tricks of voice and expression,—all these are means by which many women allow themselves to be absurd caricatures of what they might be.

The fullness of life with all its joys and pleasures is almost a sealed book to the woman who does not know how to develop herself and make herself interesting and attractive; she is but half-living who does not understand this, and no pains should be too great to acquire the knowledge and the art. By means of it we form the friendships which are the staff of life, and through that channel alone come all opportunities for woman's effective influence.

M. Amiel said that the want of beauty in woman "being

something that ought not to exist" shocked him like a tear, a dissonance, a solecism, "a something out of order," while beauty restored and fortified him "like some miraculous food, like Olympian Ambrosia."

If you desire help in the guidance of your thoughts to that realm of soul-growth which ultimates in external beauty make Ruskin and Emerson your handbooks, to pick up at odd moments, to read and re-read, and think over lovingly till you comprehend the lofty import of the truths they strive to convey. One little maxim of Ruskin's—from the preface to "Sesame and Lilies"—is so directly to my purpose that I give it to you here (He is talking to young girls, but it applies to those of any age):

"Try to get strength of heart enough to look yourself fairly in the face, in mind as well as body. I do not doubt that the mind is a less pleasant thing to look at than the face, and for that very reason it needs more looking at; so always have two mirrors on your toilet-table, and see that with proper care you dress body and mind before them daily."

The more you cultivate your ability to "dress your mind" the more keenly you will realize that "The pleasantest things in the world are pleasant thoughts, and the great art in life is to have as many of them as possible."

its telegraphic remonstrance of pain, and semi-occasionally retires entirely from work. Health requires nourishing food in sufficient quantity only, and especially interdicts excess. Next to proper food comes cleanliness, without and *within;* exercise, adapted to needs and varying according to occupation and mode of life; and a rational alternation of regular employment with some diversion. Pleasure has come to be recognized as having a distinctly therapeutic office, and hence to be one of those factors which merits the same consideration and attention as other necessaries in a well-ordered life.

Close examination and analysis have proved that a great majority of the gravest diseases and all of the slight ailments that afflict humanity are the direct result of the violation of some or many of these hygienic laws; and the more we experiment with their power for good, the more we realize how culpable are the thoughtless or indifferent folk who heedlessly ignore them. The strongest obstacles which the apostles of hygienic living encounter in the propaganda of their cult are prejudice and ignorance; and too frequently they are united, forming in union such an impenetrable crust of conceit that error has its way, the voice of reason, be it ever so loud or authoritative, being unheard and unrecognized.

A great work is being done for the amelioration of this sort of ignorance and intolerance by the widespread growth of women's clubs. They are shaking up the dead level of women who have inherited their shells of insularity and narrowness and knew not where they stood till club-life and club-work turned its searchlight of progress upon their private habits of life and thought. But there are still vast numbers of women yet to be reached, women leading isolated lives—not always, though, in isolated places—and those upon whom a heavy portion of life's burdens have been placed, and who, unequal to the task of mastering things, are mastered by them.

The weightiest problems, most closely connected with the progress of civilization and the improvement of the human race, are involved in this question of rousing all the women of our land to an earnest desire for all the light that modern science can give them upon the subject of household economy. If what is "Well begun is half done," the outlook in this field of endeavor is even now most hopeful, for already much preliminary work looking to thorough organization has been done.

It is now three years since the regents of the University of New York issued their syllabus of "Home Science," placing the course on a par educationally with botany and kindred scientific subjects, and giving the usual credits upon examination. The subject is divided into four topics, which, as subdivided, cover a broad field, probing to the source of many evils, and turning the electric light of knowledge upon countless insidious, health-destroying practices. Under the head of "Foods," instruction is given in physiological chemistry, food values, relative importance of different substances, healthful preparation and preservation of foods; and "Uses of food in the human body; quantity and relative proportion of every food principle needed to sustain life, and give power for physical and mental work; reasons for varying food according to season, age, or occupation." The second topic considers "Emergencies, Home Nursing, and Hygiene." "Household Science" stops not with plumbing, lighting, heating, ventilation, and water-supply; but instructs upon the regulation of work from cellar to garret, and discusses the relations of mistress and maid. The last topic is "Public Hygiene," which considers questions concerning the physical and moral welfare of communities; the regulations necessary for cleanliness, the prevention of epidemics and spread of contagious diseases, *inspection of foods*, and sanitary condition of public buildings.

In all large cities, and in many small towns where there

more, the tall young brides have overtopped their husbands, and mothers have been surrounded by daughters in their early teens to whom they had to look up!

In the last generation a woman of five feet eight was so conspicuously tall as to attract annoying observation; but in New York society, now, there are ten or fifteen handsome women who are six feet tall, and many young girls not yet "out" who are over six feet. At a "coming-out" tea, during the past season, a rosebud garden of six-foot beauties surrounded the stately American-Beauty bud who was making her first bows to society; and the whole group were noticeably attractive in appearance, carrying their unusual height with exceeding grace and perfect ease.

It behooves the men to bestir themselves, for many of them have been retrograding while the women were gaining, and a vast number of the younger ones are compelled to look up to the girls; and while they make the best of it with easy good humor, it puts them at a distinct disadvantage. Already youths in boarding-schools and colleges are giving much attention to those physical exercises which are best calculated to increase height; and recent statistics report a gratifying increase of weight and inches in this younger set. The training should begin at home, and mothers should see to it that boys and girls have equal advantages in the building up of sturdy frames. Heretofore, the early opportunities for healthful exercise have all been in the boy's favor, but in spite of this he has let his sister leave him behind in the race.

In this phenomenon of the girl outstripping her brother, we see the effect of the greater enthusiasm and intensity of purpose with which the feminine nature pursues a new idea. Health culture coming to woman as a blessed gift of promise opening to her a new world of possibilities, and hand in hand with the higher mental training which gave her a keen sense of the responsibility attending them, it was the natural consequence that she required no further spur

to pursue every rational means of improvement with an impetus that has carried her to many a successful goal.

Average men were slower to recognize the deep purport of the new cult, and quite inclined when it came to a question of reforming taste, relinquishing petty vices, and self-indulgence in the matter of unlimited cigarettes, to speak of it contemptuously as "a woman's fad." But she has gone serenely on and now shows him triumphantly the beautiful results of pure, healthful living and high thinking; and man must necessarily follow where woman leads, for he can't do without her.

The attempt has been made to prove that the tall girls and women enjoy no greater immunity from trifling ailments, colds, headaches, and nervous attacks, than their shorter sisters. But this is foolish, and one reply only is needed. Of course, height in itself is not claimed as conferring greater health. Almost all the girls, however, who have attained this unusual height, are departures from hereditary types, often towering above father as well as mother, and are those fortunate ones who have enjoyed every advantage of the highest all-round culture. They have found and appropriated to themselves the best in every system of physical culture; and college training has been supplemented by travel and the special culture of every talent. Change of climate and environment, too, have done their part in building up these so vigorous young creatures, with the result that they have bloomed into womanhood the very embodiment of physical health, fit to pose as models of Hygeia herself.

It is not claimed, though, for any system of hygienic laws that, after producing the perfect human being, all its maxims can be thrown to the wind without paying the penalty. The popular young beauty who enters the social race finds herself soon drawn into such a mad whirl of overlapping engagements that if she attempts to go the pace, she inevitably pays the penalty. But the amount of really

hard work that these bright young creatures go through before the strain tells upon them shows the stuff of which they are made. Their great-aunts would have fainted at the mere enumeration of a day's social engagements in this end-of-the-century period.

It is not to be understood from the foregoing that all the young women of the period who have been brought up on the most approved hygienic system have attained so unusual height, but what is emphasized is that there is an ever-increasing tendency in that direction and the short girls are in the minority.

In many other ways also, the progress already made proves that the observance of hygienic laws can overcome in time even grave physical deterioration resulting from hereditary and vicious habits of life. It will doubtless surprise many perfectly moral and extremely religious people to be told that their habits are vicious, but it is a fact that can be proved to the satisfaction of every intelligent and observing person.

It is a vicious habit to sit for hours in a closed room without ventilation, breathing and re-breathing the carbonic-acid-laden air; and the evil effects of sleeping in a room to which no fresh air is admitted are even greater. Every adult needs 2,000 cubic feet of fresh air per hour. Less than this involves the re-breathing of the poisonous emanations thrown off through the lungs and body. The misguided mortals who have grown up with the idea that colds and fresh air are synonymous seal up their houses hemetically at the beginning of winter, have difficulty, in consenquence, in heating them, as impure air is not congenial to combustion and is too sluggish to allow the heat to be disseminated; and the result is that some one in the family is always ailing. In the late winter and early spring the women and girls who sit for hours in the same unventilated rooms are overcome with languor and lassitude, all simply the effect of slow poison stagnating the blood; and if in

this state of lowered vitality there is exposure to any serious disease such persons are ready victims. Bad complexions, headaches, and weak nerves are an almost inevitable penalty for the infraction of this law, which is invariably attended by the breach of others, proving the natural law of like seeking like and producing like. The vitiated blood causes torpidity of all involuntary organs, and the excretory functions, clogged by the enormous work thrown upon them, are sluggish and unequal to performing half their duty. From this last cause alone come the great majority of the pimply skins with enlarged pores and unsightly comedones.

The reward for living a hygienic life is almost immediate in the improvement of bodily and mental health, and with health comes the sign-manual of a clear complexion. This is one of the primary qualities of beauty, without which no harmony of features can avail to make a woman lovely.

Quoting again from a health essay of my own: "To the plea, often urged, that it is too late to begin approved methods of physical development in adult life, there is but one answer to make and that is emphatic: Change being a constant, never-varying condition of all the organs of the body and its bones, muscles, and nerves, the process of renewal being continual as long as life lasts, it can never be too late to supply the body with better material for this renewal; never too late to stimulate these operations of waste and repair to the utmost perfection in their work. It is never too late to strive for any good thing we desire; and if the effort to attain it be pursued in accordance with Nature's laws, she is the most able ally we can win to the accomplishment of our aims.

"If the three prime functions of all animal life, aëration, nutrition, and excretion, be perfectly performed, the resultant condition is perfect physical health; so upon the first symptom of disorder seek first to learn wherein the healthful regulation of these functions has been violated. When the involuntary normal action of any organ is dis-

turbed, the weakest part of the body—often quite remote from the seat of trouble—is the first to feel it and sound the alarm."

The utter ignorance among masses of otherwise well-educated women of their physical selves, is amazing and deplorable. To this cause alone may be traced a great part of the maladies and debility from which they habitually suffer. Often there is not only ignorance but an intense repugnance to knowing anything on the subject, and a pronounced reluctance to hearing it discussed. I have heard some hypersensitive women declare that they should loathe food if they heard the mechanism of digestion explained, and as for the mysteries of their own distinctive and so marvellous functions, delicacy forbade their listening to any information on the subject. Poor, misguided women, making their own procrustean beds upon which they drag out weary, useless lives in slow torture!

Every adult should have sufficient familiarity with anatomy and physiology to be able to exercise judgment in the regulation of diet, baths, and daily exercise, and to recognize the dangers to which the violation of hygienic laws exposes one. It is not an abtruse subject, not beyond the power of average memory and ability to master; and it is the only key which can be offered woman by which she can unlock the mysteries of herself and learn her physiological needs.

If the allowance of food in the world were equally distributed, none would suffer; and the surplus consumed by the over-fed added to what is wasted in the United States from bad cooking and in other ways, would feed well all the world's starving creatures. When we consider the subject of food we are met at the outset by one of Nature's most baffling conditions: the impossibility of laying down any rules of diet because of the individual peculiarities which make of one man's poison, meat for another; and the fact that varying occupations and habits of life require en-

tirely different food. One mistake of the faddists is that they fail utterly to recognize these cardinal principles, and they also ignore inherent peculiarities of mankind, Food is valuable in the exact ratio of its nutrition and digestibility; but in high grades of civilization—the farther the remove from brute creatures—these qualities are directly enhanced by its palatability; that is, its flavor, and also by its appearance. The coarser the people the coarser their food, and the more the act of eating becomes simply a feeding. The higher the intelligence the greater the appreciation of delicate and scientific cooking, and the more complex the needs of the system.

There is a woful amount of misdirected energy and virtue expended in the cause of so-called "plain living." These people consider it a mark of moral rectitude and proof that they appreciate and understand the laws of hygienic living if they strictly eschew the "pleasures of the table"; and they indulge in a painful amount of vaporizing anent "plain living and high thinking." Since writing the foregoing I have enjoyed some trenchant criticism upon this subject by Dr. Shoemaker which so strengthens what I have said and what I intended to write that I will quote it here:

"Considering the bountifulness of this land in all that can contribute to the table, the general cooking seems all the more execrable. Praise of plain cooking is cool self-ascription of a virtue that has no existence, and an aspersion of an art by one who does not pretend to be a votary of it. There is no true plain cooking but among cannibals, where all condiments are neglected. The plain cooking of civilization is only an imitation of this. It is the negation of all that the art of cooking summarizes in the well-being and pleasure of man. . . . A plain cook of either sex is a person who brings fire and meat and vegetables together and lets them fight it out among themselves for a dinner. Unfortunately, the fight does not end there, the next bout being in the stomach of the unfortunate partaker of the repast;

and the next, perhaps, with the doctor as bottle-holder. Depend upon it that cooking is an art, and that plain cooking is the absence of all art."

Among the faddists is one set who advocate a diet of vegetable and animal foods which are palatable in a raw state; their argument being that cooking, seasoning, spicing, and freezing our foods are abnormal processes injurious to the digestive organs. Another set confine themselves to meat and hot water; then come the vegetarians, who will touch nothing which has ever had in it the vital spark of life, yet do eat animal substances in the form of eggs, butter, cheese, and milk. Then we have the "natural-food" cult, "The Densmorian Theory," which also eschews cooking, and finds all the materials to build up the perfect body and "insure health and vigor far beyond the now-recognized natural span of life," in the nuts and fruits of the earth.

Now the truth is that often a kernel of good can be found in every new departure, but it must never be forgotten that what one person will thrive beautifully upon means sickness and suffering to another. There are some stomachs which would utterly refuse to digest entirely raw foods, they need the stimulant of warmth. Moreover, anything that causes the stomach to revolt fails to be assimilated. And this fact should prove to you the unwisdom of forcing little children to eat foods which they do not like. It is a species of refined cruelty. If it be a food which you know to be nutritious, and the child's system requires it, contrive to present it with that best of all sauces and appetizers, hunger.

Pleasure is a direct aid and stimulant to digestion; "for the stomach is a most sensitive and inconveniently sympathetic organ, completely under the dominion of the mind, and stimulated or paralyzed in its action by the emotions of the moment. The gastric juices cease to flow, and it rejects food—loathes it, indeed—and utterly refuses to digest it when depressed by gloomy forebodings, dread, or low spirits from any cause. Under these conditions it is

folly to force work upon the depressed organ, which immediately the cause of trouble is removed will respond with the healthy craving of hunger; hence the importance of banishing all disagreeable topics of conversation from the dining-room."

No better precept for dining-room observance could be inculcated than this caution from Emerson: "If you have not slept, or if you have slept, or if you have headache, or sciatica, or leprosy, or thunder-stroke, I beseech you, by all angels, to hold your peace, and not pollute the morning, to which all the housemates bring serene and pleasant thoughts, by corruption and groans. . . . The oldest and the most deserving person should come very modestly into any newly awaked company, respecting the divine communications, out of which all must be presumed to have newly come."

With regard to what you may eat, this broad rule may be set down: Man is omnivorous, requiring for his perfect development a greater variety of food than any other animal. The whole intricate mechanism of his digestive organs, which provide different fluids to act upon certain substances, proves this. Pasty complexions and pimples, sour tempers and broken constitutions, are the result of senseless eating. Dr. Shoemaker lays down the common-sense aphorism that "The more various the diet, the better the health and the enjoyment of existence." And he adds: "When we find nations so situated as to be obliged to subsist chiefly on one article of food, we find the system liable to specific disorders." It is believed that their almost exclusive diet of rice was the cause of the prevalence among the sailors in the Japanese navy of that terrible disease *beriberi*, and in consequence, bread, wheat, and beans have been added to their rations.

It is not the scientific aspect of diet that will appeal to the lay-woman, or even convey to her much information; but a few facts are easily explained, and give to reason

something to base its judgments upon. We have to eat in order to repair the natural waste of the body,—which is one twenty-fourth of its weight daily,—and, consequently, we have to supply like materials. These elements, chemically considered, are nitrogenous and non-nitrogenous. The nitrogenous food-stuffs are both animal and vegetable in their origin, and are taken into the body in the form of proteids, which are sub-divided into albumen, gluten, fibrin, casein, myosin, globulin, etc. They are pre-eminently constructive; the makers of energy, mental and physical. It is these elements which are the *stimuli* of change in the body, and a certain amount of heat is generated in their activity.

The animal foods contain the proteids in the most concentrated form and are generally most easily digested. Of the vegetable kingdom, dried beans and pease are rich in casein, and wheat, oatmeal, and rye in gluten.

Non-nitrogenous substances are carbohydrates, derived principally from the vegetable kingdom in the form of starches and sugars; and fats, or hydrocarbons. Fats are force generators, and, being non-conductors of heat, assist in maintaining the temperature of the body. They are more greedy for oxygen than are the carbohydrates, consequently in their oxidation much heat is generated. This is the reason the Esquimaux consume such quantities of seal blubber and esteem raw tallow a luxury. The fats and oils perform a most valuable service in the economy of the body, and in their pure, *healthful* forms there is a most unwise prejudice against them in America. Most of the unfortunates who have to take medicinal oils would never have required them had they been wonted in youth to eat the amount necessary to build up the perfect body. The lungs, especially, appropriate a great deal of fat in the development and renewal of their spongy structure.

The starches, sugars, gums, etc., are carbohydrates, and, in process of digestion, are changed into glucose, or grape-

sugar, before they can be appropriated by the renewing agents of the body. Alone they do not furnish the materials to sustain life; but as assistants they are necessary, and they are conducive to the formation of fat, as they do not encourage change. The carbohydrates prevail in the vegetable kingdom, as nitrogen does in the animal.

Mineral salts are necessary both as solvents and to maintain the natural acidity and alkalinity, respectively, of the different digestive fluids and the tissues of the body. If it be deprived of the normal amount of these different elements required in the constant change under the operations of waste and repair, imperfection or weakness of some sort results, and suffering ensues.

The alimentary canal, by which name all the organs employed in digestion are called, extends from the mouth to the anus, and averages thirty feet in length. In the lining membranes of its different compartments, five different digestive fluids are secreted; and every fluid has its special office, digesting and appropriating by chemical action certain elements only in the food. The saliva of the mouth is alkaline, and when it is freely mingled with the food by proper mastication, it encourages the flow of the stomach's gastric juice which is acid, and thus stimulates the healthful performance of its function. Hence if mastication is slurred over—a fatal American habit—the next part of the work is imperfectly done. The gastric fluid digests only the proteids, sending the substance appropriated immediately into the veins and lymphatics.

It is easy to understand from the foregoing that the model diet is that which, by appropriating those substances which contain the needed elements in their most convenient form for digestion, mingles both animal and vegetable foods. In attempting to obtain from either kingdom alone all the nutriment required, it is necessary to eat too much of one element in order to obtain sufficient of the other, and this involves an unwise labor thrown upon the organs of

digestion and excretion, and may cause serious trouble.

For example: in a meat diet, in order to obtain the necessary carbon for the combustion which creates energy, an excess of almost four fifths of proteids would be thrown upon the liver and kidneys to dispose of. While in a bread diet, in order to obtain sufficient nitrogen, there would be an immense overplus of carbon to eliminate.

Excess of any food-supply causes fermentation of undigested overplus, which quickly becomes a state of rottenness. Not pleasant to think of, I grant; but plain terms will best arrest thought and attention, and induce reform of most deleterious habits which are the source of much suffering and are inimical to good looks. In the fermentation, butyric, lactic, acetic, and other acids are formed, generating vile gases and causing an offensive breath.

There is no country in the world where there is so varied and abundant a food-supply, at generally moderate prices, as in the United States; yet I doubt if the world can show, elsewhere, so many well-to-do people who are badly nourished. Our very abundance has seemed to blind people to the necessity of learning how to prepare food, and the very ones who are nearest the source of supplies, the agriculturists, live from one end of the year to the other on the most limited and unvaried diet, utterly oblivious of the value in the fruits of the earth which could be theirs often without labor or price. The French or German peasants would revel and thrive on the refuse from an American farmer's kitchen, because necessity has taught them to extract every particle of nourishment from food-supplies; and on six square feet of ground they would raise all the savory herbs needed to give to their *pot au feu* its piquant, delicious flavor.

One diet rule alone admits no exception: our food affects the body for evil or for good; and the woman who wishes to cultivate her beauty must find out what best agrees with her, and she must consider it worth while to know how it should be prepared. It would be better to

join the raw-food faddists than to run the risk of eating the half-cooked, glutinous cereals, sodden potatoes, and pasty hot rolls offered us on too many tables, which become an inelastic, gelatinous, sticky mass as soon as they enter the stomach, and are well-nigh impervious to the action of the digestive fluids. These, and tough fried meats and half-raw vegetables, have almost no value as nutriment, and at the same time impose an enormous tax upon the digestive organs.

The prolific source of our American malady, dyspepsia, is innutritious food, and the cause of the failure of the food is the evil genius who presides over the cooking. Overeating, too, of the best and most nutritious food, will also cause indigestion; and other producing causes are eating in haste and when the body is exhausted. Most unfortunately the last conditions are often united, and we must acknowledge that they are almost exclusively American vices.

Now, of two evils, it is better to go hungry than to eat when over-weary or in great haste. It is an insult to the stomach to thrust into it a load of half-masticated food, which under the depression of fatigue it is incapable of digesting. Decomposition ensues,—there is a loathsome difference in the processes,—and a sour stomach results; gases arise, poisons are absorbed, and the natural consequences follow,—headaches, sleeplessness, and general disorder.

Men are much more frequently offenders in this last respect than women, whose gravest dietary faults are not giving sufficient thought to their own food and humoring unhealthy appetites. Reform, however, in all bad habits must come from woman's suggestion, and mothers cannot begin too early to train their children to a healthful manner of eating. Moreover, if a woman who is striving to improve her physical appearance has a dyspeptic husband, she must needs be already a saint or else her efforts must begin with his cure.

It is becoming a recognized principle in therapeutics that for incipient ails it is not so much pills and potions that are needed as the regulation of diet and exercise, and without attention to these all the medicines in the pharmacopœia are of no avail. It will be a blessed thing for the beauty and health of the race when this is generally known, for the crowning injury which the American people inflict upon their physical well-being is their indiscriminate consumption of patent medicines, the sale of which in this country alone exceeds that in all the other nations put together!

Dyspepsia being entirely the result of errors of diet and want of exercise, its treatment begins at once by the regulation of these. In early stages and even in chronic cases before they reach the critical state where the stomach rejects almost everything, the suffering can be immediately alleviated by a discipline of half-rations, accompanied by systematic exercise in the open air. Naturally, the food selected must be of the most nutritious character, in least bulk, and well cooked. The drinking of hot water freely before breakfast and again at night, just before bedtime, will hasten a cure. There is no simple regulator of the internal economy more efficacious, for it cleanses the mucus membrane of the stomach, and stimulates the whole alimentary canal and the kidneys to do their work, performing the necessary office of scavenger for the whole body. All persons who lead sedentary lives, not taking sufficient exercise to impel the tissues of the body to throw off the daily waste, will derive great benefit from drinking hot water. It should not be drunk so hot as to create the least discomfort in swallowing, nor be poured down in a deluge. Haste, in both drinking and eating, should be avoided.

The physical idiosyncrasies which make it impossible for one person to take milk, another to eat eggs or any compound into which they enter, and which causes strawberries to disagree with some and fish or smoked meats with others,

is due to the chemical changes which all foods undergo in the process of digestion and assimilation. These changes are many and varied, differing in the individual, according as certain chemicals predominate, and some of the compounds are actually poisonous. Thus it is necessary that appetite should be regulated by reason, and all must learn by experience what agrees with them.

Dainty, refined people require daintily prepared foods of delicate flavor. Don't confound simplicity with crudity. The one appeals to a cultured taste: the other revolts it. Experience has proved that the highest type of the human being is produced by a variety of foods taken at the same time, which thus are more easily digested than only one or two kinds, and more readily enter into the chemical compounds which create firm, solid flesh, and a transparent skin.

Occupations and mode of life should govern the choice and regulate the quantity of food eaten. Those engaged in physical labor need an abundance of highly nitrogenous food. Underdone beef and well-cooked mutton with onions, cabbage, baked beans, carrots, potatoes, and peas are specially suited to their need. "Pork should be eaten only by those who have constitutions of iron, who work hard in the open air, and never know what an ache nor a pain is. There is not a disease which pork may not cause, nor a pain it may not produce. A well-known New York physician, referring to pork, has said: 'It is the parent of dyspepsia, neuralgia, headache, sleeplessness, biliousness, constipation, hypochondria, and every other physical ill.' If it must be eaten, be sure that it is thoroughly cooked."

"The red and dark meats are more stimulating and more readily assimilated than white meats, owing to a property called ozmazone contained in their fibrine. It is this principle which gives to meat soups their aroma and taste, and the darker the meat the more ozmazome is present. It is almost absent from veal and all young meats and from the white flesh of poultry."

It is most important that the food taken in the morning be of a nature that is most easily assimilated, throwing as little work upon the digestive organs as possible. One of the latest health fads is to go breakfastless till 11 o'clock, and to make even that late *déjeuner* a simple and light meal. Those who have adopted it claim the happiest results for persons in ordinary health, some gratifying cures of dyspepsia, and wonderful rejuvenating effects upon the aged. The first course at breakfast should be fruit; fresh, of course, in the season; and in the early spring oranges and grape-fruit are especially needed. These, with the malic acid of the apple, perform a most beneficent work in the human economy. Don't be frightened out of eating them by those alarmists who declare there is too much acid in the body already. Tell them, what they evidently do not know, that these fruit acids are by chemical action turned at once into alkalies, and this is the reason that lemons, which are similar, are so beneficial for rheumatism and dropsy.

"Tall, thin persons, if they take sufficient exercise to digest them, should eat starchy foods,—plenty of bread and cereals; and also sweet fruits, cream, all meats but pork and veal, and drink an abundance of milk and pure water." Those who find it difficult to digest the breakfast cereals, especially oatmeal, will find the process greatly aided by eating a bit of toast, a wafer, or brown bread with them. These foods mingle with the cereal in mastication, breaking up the mass, and thus giving the gastric fluid a better chance to do its work. Oatmeal is too heating to be a general article of diet during our summers, and its digestion as well as that of all cereals should be aided by aperient fruits,—figs, dates, prunes, and berries, as well as those already mentioned.

It must be borne in mind that the starches are not digested in the stomach at all, and in sedentary occupations they encourage and often create most obstinate constipation. The aperient fruits stimulate the flow of intestinal

juices, and are a sure means of overcoming this most unhygienic condition which is always a menace to a good complexion, and oftener than not the originating cause of pimples.

It is almost unnecessary to say that whole-wheat and gluten bread ought to displace that of fine white flour as a standard article of diet. The French, who make of cooking and everything pertaining to the table a fine art, have already appropriated it. But if white bread must be eaten it is much more healthful if cut in *thin* slices and toasted brown, this process transforming the starch into dextrine, which saves one of the labors of digestion. It has yet to be changed into glucose before it can be assimilated. "An interesting fact that ought to be widely known is this: common dried figs contain sixty-eight per cent. of glucose, which when eaten is in exactly the condition which the starch of cereal foods attains only after a prolonged and nerve-wearing tax upon the digestive organs."

Brain-workers commit many indiscretions which jeopardize health, both from overwork and failure to adapt food to work. The changes of tissue in the brain that take place during study and thought are very rapid, three hours' work exhausting the forces of the body as much as a day of manual labor; and the absence of physical exercise encourages a dangerous torpidity of the voluntary functions, making their elimination of wastes very sluggish. Therefore, this class of workers and all who lead sedentary lives, require most concentrated and easily digested foods. They should eat fresh beef and mutton, fish, eggs,—cooked in many forms, but never hard boiled nor fried,—oysters, and all fresh, green vegetables, especially cool, crisp salads,—lettuce, celery, chicory, escarolle, watercress, tomatoes, etc., —with *mayonnaise* or French dressing. They should begin the day with fruit, and make it form the principal part of luncheon, which should be a very light meal, if labor be continued after it; and should be very sparing in their use

of cereals, eschewing entirely white bread and oatmeal.

The pasty flour-and-water sauces—miscalled "cream"—with which the average American cook masks so many of her foods also induce constipation and offer another menace to the complexion, because the flour is usually but half-cooked. All these clogging things, containing little or no nutriment, increase the labor of vital processes and help to break down unduly taxed organs. As a rule Americans do not take enough liquid food. Two quarts daily are needed besides that taken with the food, as in potatoes, which are seventy-nine per cent. water, or bread, which is over thirty per cent. Therefore it is common sense which directs that soup be the first course at dinner; it warms the stomach and gently stimulates it for the work to come, and aids in liquefying the nutriment, in which state only it is appropriated.

The salad, also, is too often wanting on American tables, for it is an important aid to digestion, all of the fresh, succulent leaves before enumerated possessing certain chemical properties and supplying needed salts. Tomatoes furnish higher nerve or brain food; are cooling, hence invaluable in summer, act most beneficially upon a torpid liver, and relieve dyspepsia. A tomato and lettuce salad with *mayonnaise* dressing is an agreeable way of taking calomel, by which means you derive all the benefit without any of the harm of that powerful drug. Spinach contains salts of potassium, iron, and other things good for the complexion because of its tonic action upon the liver. The French call it the scavenger of the stomach.

Tea and coffee are most valuable stimulants when used in moderation. Don't confound stimulation with vice. Every food that does its proper work stimulates, and many stimulants nourish, *to a certain degree.* It is taking them in excess, more than the body can assimilate, that is harmful; and over-eating produces even graver troubles. Tea is especially a true care-breaker, and as it increases the circulation it

stimulates healthfully all the organs, and especially affects the brain favorably, restoring equilibrium; thus, being sedative as well as stimulating, it is the best thing that can be given in cases of sudden mental distress, calming excited nerves and restoring weary, exhausted people. That "Coffee is excellent brain-food, and helps millions of people to the better performance of their tasks in business, literature, and art," is Dr. Coan's opinion. But never lose sight of the proviso, "moderation."

In summer the fruit phosphates are not only most grateful drinks to the palate, but have tonic, diuretic, and other medicinal virtues which make them invaluable to women. Those who understand their value use them the year round. Wild cherry is the most important of them. There are herb drinks, too, which are as precious as the fruits and act most beneficially upon the circulation and nerves. They are more restorative than stimulating, seeming to be just the fillip that Nature needs, and are followed by no baneful after-effects. Dried sassafras root—two tablespoonfuls steeped for twenty minutes in three pints of water—is both food and drink. It may be slightly sweetened if preferred and drunk cold as freely as desired; it acts upon both blood and nerves, purifying and strengthening. For excited, trembling nerves, irritability, and irregular flushings,—those moments of exhaustion and weariness when a woman's feelings are utterly indefinable,—a little red lavender is worth quarts of that insidious demon chlorodyne! Two or three teaspoonfuls of the tincture in a cup of hot water with a slice or two of lemon make a restorative drink that acts like magic. It calms one and puts a woman in possession of her best self, making her

> "A happy soul, that all the way
> To heaven hath a summer's day."

A woman should study her own organization till she has learned what foods she can best assimilate,—and feed her-

self into a state of physical beauty. She can be just as attractive at sixty-five as at twenty-five, if she lives right; perhaps even more attractive, depending upon what she was at the earlier age. She must acquire the cunning and gentle art of cultivating herself, and make it such a habit that it will come as natural as breathing, and be no more of an interruption to necessary occupations than the involuntary act upon which all life depends.

She is prepared by the foregoing to be told that she makes or mars her complexion by the food she eats; that the best food for a beautiful complexion is that which is most readily assimilated; that undigested foods, and wastes which are not regularly and promptly eliminated from the body, are corrupting masses generating poisons, which must ultimate in some form of disorder and ugliness. She will therefore avoid over-feeding; and equally shun going to the other extreme of not taking sufficient nourishment. If she is much alone, she will no longer think it "too much trouble" to prepare appetizing and nourishing food just for herself; and, when lunching at a restaurant, she will order soup and a green salad; instead of soft-shell crabs or lobster *à la* Newburg followed by a cream puff with peaches and cream and a cup of chocolate, or only tea and toast.

This last with a dish of stewed prunes, or a cup of chocolate instead of the tea, is quite enough for an idle woman's luncheon,—one who is lounging about and taking no exercise; but her busy sister requires something more substantial, yet must avoid a hearty meal of several courses with meat and different vegetables, in the middle of the day, if she must resume her work immediately.

Most people need to use fruit in much greater abundance; and those succulent leaves, commonly called "greens," which are rich in the salts which aid in regulating the internal economy, should, like salads, form a part of the daily diet. We have them in such abundance that they are in the reach of all, and in so great a variety

that none need tire of them. Spinach, kohl, young beet-tops, dandelions, cowslips, and sorrel, all these are Nature's tonics for the human system; and if in the late winter and early spring they were eaten daily we should hear less about biliousness, and its accompanying languor and lassitude which no amount of sleep alleviates. Tomatoes, grapes, peaches, plums, and melons are the late summer's preparation for winter beauty; eaten abundantly they have a wonderfully beautifying effect upon the complexion. The antiseptic properties of the pineapple are not half-appreciated. The juice cuts its way through the morbific secretions of mucous membranes, hence is invaluable in throat diseases, especially diphtheria; cures some forms of dyspepsia; and, in fact, scours out impurity wherever it finds it. Used freely, outwardly and inwardly, it affects the skin most beneficially, and is said to banish moth-patches. It is the pulp which disagrees with some persons, and in the condition of the fruit when it reaches Northern markets, this part of it should not be eaten except when finely grated. It makes as good a short cake as strawberries and also a delicious layer-cake.

An excellent handmaid for Nature in stimulating weak digestion and torpid organs is this fig paste: A half-pound each of fine raisins and figs, one ounce of senna leaves; chop fine and put in a stewpan with a half-pound of sugar and a half-pint of boiling water; let simmer slowly for twenty minutes, then pour out on oiled paper in a long baking-tin to cool. Take a piece about an inch square at bedtime, and afterwards regulate amount by effect.

Mothers should remember always that young girls who sit for hours in school require laxative food. It is so critical a period in their lives, when much nourishment is required for the perfect development of the growing body, yet when their enforced inactivity encourages torpidity of vital functions; and this must be counteracted by foods, not drugs. Supply the natural craving for sweets with spicy coffee-

cake made with whole-wheat flour, or soft gingerbread rich with molasses. The cinnamon of the coffee-cake is antiseptic, and an enemy to the microbes of disease, especially typhoid bacilla.

The fondness of children for bread and molasses is a natural craving which should be gratified. Don't make the mistake of giving them the thin adulterated syrups of commerce which ferment readily and are as pernicious as pure molasses is beneficial. If you cannot get genuine New Orleans molasses or maple syrup, boil down what you have till it is thick and rich, skimming it thoroughly. Breakfasts and suppers of brown bread and molasses are said to produce firm flesh with a marble-like skin.

The medical fraternity are only just waking up to the value of sugar as a food. The lumbermen of the Canadian and our Northern forests are said to owe their tremendous muscular development to the large amount of sugar, in the form of molasses, which forms part of their diet. Pure sugar is now being tried as part of the army ration of the German soldier, because it has been discovered that compared with other substances a given amount supplies greater staying power, and that, especially in the open air, the system requires it.

No one should ever go to bed hungry. A light luncheon of wafers and warm milk, hot water and brown bread, or a few dates, is enough to stay the craving and induce sleep. The mistake is to eat heartily and hurriedly, imposing upon the stomach a full meal of half-masticated food.

Discrimination is needed, also, in the choice of foods for different seasons of the year. In summer foods for strength and nourishment only are required, and as far as possible the heat-producing substances needed in winter should be shunned; processes of change are slower, also, and less should be eaten. In the active life which most Americans lead, the principal meal of the day should be eaten at its close, when there is leisure to enjoy it; and the arrange-

ment of the meal in courses, which may seem elaborate to those unused to it who associate it with the idea of ceremony, is the most common-sense and practical thing, compelling that healthful pause which aids digestion, and puts the brake on appetite. Let me say, here, that in these matters we could go to the French school of common sense any day with great profit to ourselves; and what they do not know about the nourishment of the body is little worth the knowing.

The gorging with hearty food, half-masticated because eaten in haste, and drowned in iced water which immediately puts out the furnace fires and arrests all digestion till the nerves and glands of the stomach rally from the shock and have time to rebuild them, is the source of a great part of the physical ills from which the American people suffer. Under these circumstances the gases generated distend the stomach so it presses upon heart and lungs, and the suffering which ensues is often attributed to heart-disease. Many deaths result from the consequent heart-failure, when that vital organ itself is physically sound.

If vegetables are not thoroughly cooked, they pass through the alimentary canal without yielding their nutriment or undergoing much alteration; and in some stomachs they ferment and run into acids, causing heart-burn and disorders of the bowels. Underdone peas and beans are very nearly as great an insult to the organs of digestion as so many small pebbles would be; the tough fibre of half-raw root vegetables is only less hard to attack than bark would be; and yielding none of the nutriment which thorough boiling would develop, they become a dangerous source of irritation.

It is not their being hot that makes the American breakfast-rolls and bread so indigestible, but their freshness, and the fact that they are so generally of fine white flour. Good stale bread and rolls can be warmed, if covered to prevent their drying, so they will be delicious. But if you are eat-

ing for a good complexion be chary of the use of fine bolted flour either fresh or stale,—except in the form of crisp thin toast,—and supplement your vegetables and fruits with coarse breads and thoroughly cooked breakfast-cereals in small portions.

The nutritive value of meats depends more upon their cooking than upon the choiceness of the cut. The experienced, intelligent cook will send to the table a palatable stew made of the cheapest parts of beef that will yield more nutriment than a porterhouse or sirloin steak if it be fried. Roasting and broiling are the best methods of cooking meats, and the broiling should be done over a very hot fire, turning frequently and quickly so that the outside will crisp and shut in the rich juices. The same rule holds in roasting; that is, the oven should be very hot at first so as to crisp over the exterior of the roast; then a slower heat is needed to cook through without over-doing. Beef should be eaten rare and all other meats well done, and especially young meats, as veal and lamb. If the meat is to be boiled, which is the perfect method of cooking a leg of mutton, it must be plunged in boiling water, so that the albumen of the exterior will coagulate and shut out the water. For the opposite reason, if the meat juices are to be extracted for soup-stock, the meat is placed in cold water and set on the back of the range, where it will heat slowly, and it is kept simmering—*not* boiling—for several hours.

So much is the use of the frying-pan abused in America, that one prolific cause of dyspepsia and malnutrition would disappear if it were banished from the kitchen. The fat for frying should be very hot, and it is a great improvement to substitute cottolene or olive oil for lard. Whatever is fried should be cooked as quickly as possible, and when lifted from the fat placed on porous brown paper for a moment to drain. Croquettes, fritters, French fried potatoes, etc., should have hot doileys (to absorb the grease) placed beneath them when sent to the table.

The cook who knows of no way to prepare eggs but to fry them should be told that there are more than twelve hundred methods of serving this nutritious and always acceptable food, and every cook ought to learn at least a half-hundred of them. For summer breakfasts and luncheons a delicate omelette filled with asparagus-tips, stewed tomatoes, or chicken giblets is a delicious and healthful substitute for meat.

There is a grave amount of ignorance on the subject of the office of water in the internal economy. Many obstinate, chronic cases of constipation are caused by the lack of sufficient water to aid in carrying off the waste and effete matter. A first and imperative condition for a pure complexion is that all the excretory organs be kept in an active, healthful state. When it is understood that five sixths of the human body is water, that it enters into the structure of every organ and tissue, and that no food can be assimilated till it is reduced to liquid, the serious results of stinting the supply will be appreciated. A thorough flushing of the body daily is needed to assist and stimulate the internal organs to do their duty. When they are torpid, an undue amount of work is forced upon the skin, causing the distention of the sebaceous and sudoriferous glands which become coarsened under their onerous work, and generally unsightly pimples and blotches ensue. Fewer people would have to go to the "*spas*" periodically for treatment if they would exercise the same care to drink water freely at home. It is best taken between meals.

The supine indifference of whole communities as to the condition of the water they drink is amazing. Frequent causes of impurity are found in foul pipes, or a leakage of sewer-gas near by; and water standing in open vessels quickly absorbs impurity from the air. The Hirsch test is so simple that any one can try it: Take a pint bottle of clear white glass and fill it about two thirds with water; add a half-spoonful of granulated sugar; cork the bottle

with a new cork,—a glass stopper is better,—and stand it in the light in a warm room. If within forty-eight hours the water becomes cloudy or milky, it is unfit to drink. Another easy test is to keep at hand always a solution of permanganate of potash,—eight grains in an ounce of *distilled* water. The solution is red, and if it lose color when a single drop of it be placed in a half-pint of the suspected water there must be impurities in it. Remember that perfectly clear, odorless water often contains diseased organic matter.

The mistakes of ignorance have led to a vast amount of self-inflicted suffering, but now that science has come to our relief and indicated to us the broad highway to perfect physical health, the man or woman who knowingly strays into wayward paths of error and self-indulgence is criminally heedless. So hopeful is the outlook for those who realize individual responsibility in every detail of daily life, that it is no idle prophecy to predict that the time is not distant when physiological chemistry will be able to decide exactly what regimen will best further the desire or ambition to develop in certain directions, just as now the college athletic teams are trained to their work by rigid adherence to certain diet, exercise, baths, and sleep.

Women the world over have the baneful habit of hugging the fireside too much and leading too inactive lives; they often wear themselves to nervous wrecks by confining and monotonous indoor occupations. They need all the sunshine, fresh air, and variety that they can possibly contrive to introduce into their lives. Sometimes a round of exacting household duties gives a woman all the exercise she has either time or strength for. But if she closely examines the routine of her duties she will find that some are made unnecessarily laborious, that others can be wisely dispensed with, that into certain ones variety can be introduced which will relieve monotony and thus make the task lighter, and that all will be more easily performed if fresh air and

the blessed sunshine are allowed to give a spring to the step.

The woman whose most serious occupation in life is sitting for weary hours sewing superfluous trimming on her clothes, I beg most earnestly to transfer her interest and attention to these more permanent methods of enhancing her attractions. She must become a disciple of Hygeia and devote herself with the same energy and enthusiasm to the study of the sources of health, grace, and beauty that she has heretofore lavished upon the minutiæ of dress; and she will then neglect any other duties before she denies herself her daily allowance of fresh air, sunshine, and exercise, into the proper regulation of which it will now be my pleasure to initiate her.

CHAPTER IV.

PHYSICAL CULTURE.

"Beauty without grace is the hook without the bait. Beauty without expression tires."

"Better to hunt in fields for health unbought
Than fee the doctor for a nauseus draught.
The wise for cure on exercise depend;
God never made His work for man to mend."

OBJECTS in motion attract the eye before perfection of form. Therefore, the woman whose trained body is the outward expression of a pliant, sympathetic mind, presenting lovely curves instead of angles, and whose step is as light as that of the fawn, is the one who pleases first, and enchains attention by the subtly expressive changes in her sinuous movements.

The charm of Loie Fuller's dancing is not in the steps and gyrations of the traditional *danseuse*, but in the marvellous spiral, waving lines of drapery which the undulating, circling movements of her supple body with its facile muscles and pliant limbs manipulate in a fascinating whirl; now resembling a giant lily and again devouring flames that lap and twist together in sinuous curves. It is an exposition of the poetry of motion, and only possible with a body under absolute control, so lithe and lissome that the least unstudied motion is a curve of grace, and capable of an infinite variety of these. Always, it is the refreshing surprises of ever-new motions, never exactly repeating each other, like the leaping flames of the driftwood fire, that

pique and fascinate the observant and cultivated eye.

The Grecian Diana represents this type of perfected, graceful, wholesome womanhood, the symmetrical development of her stately form being the result of devotion to the chase and all out-of-door sports; and the modern girl and woman who would possess these powers of attraction must pursue like methods by adopting every means which modern science has disclosed for the development of their wondrous organisms.

Thus the secret of grace is complete control of the body; and, consequently, in cultivating beauty, of which grace is a component part, it is imperatively necessary to live and move naturally and with perfect freedom. Freedom from tension is a first condition for graceful poise and harmonic rhythm, and these are indispensable; in fact, they are vital points in the problem, possessing a distinct charm of themselves, which is almost as indefinable as that quality in the atmosphere which invigorates us. It distinctly increases vitality, hence we call it stimulating.

This condition is the opposite of resistance, and consequently takes to itself and appropriates all nutriment and strength that comes its way. Tension is continually spending and never restoring. And this is a fatal pitfall, deeply excavated by habit, into which many women heedlessly step. "Habit is a cable; we weave a thread of it every day, and at last we cannot break it."

When a woman has learned to control her nerve-force she has gained a first element in attractiveness, for a sound nervous system is of primary importance in giving and storing vitality and the power to endure. The mere restfulness which this self-control imparts gives pleasure; but, more than all else, it is this favorable condition of the body which makes possible the free expression of the spirit.

Woman is a reckless spendthrift of strength, and makes the most ruinous overdrafts upon her nerves, sapping their strength and vitality, until they are so broken down by pain

and weariness that the reserve force, the nerve capital, is exhausted. Lethargy and want of co-ordination in the great ganglionic centres ensue, and in this crippled condition her soul has only a most imperfect means of communication with the outer world. The soul, the *ego*, is always well, being the connecting link with the source of all vital strength, with life itself; but it is sadly handicapped in its efforts to express itself without the medium of the physically perfect body. Dr. Helen Densmore says: "It seems to me plain that the more physiologically we live, the more perfectly we build this material temple, the more easily the spirit can shine through, revealing its nature, which is always the same."

In considering the training of the girl to fit her for the most perfect fulfillment of the varied responsibilities of her life and their enjoyment, Ruskin says: "The first of our duties to her—no thoughtful persons now doubt this—is to secure for her such physical training and exercise as may confirm her health and perfect her beauty, the highest refinement of that beauty being unattainable without splendor of activity and of delicate strength. To perfect her beauty, I say, and increase its power; it cannot be too powerful, nor shed its sacred light too far: only remember that all physical freedom is vain to produce beauty without a corresponding freedom of heart."

By "freedom of heart," this great and inspired student of Nature means freedom from the weariness of doubt, the morbid self-questioning caused by constant rebuke and fault-finding, the irksomeness of restraint,—those unwise restrictions which are hurled at a girl, oftener than not from force of habit, with a "Don't do this," and "Don't do that." These things to the girl are what anxiety, hurry, and worry are to the woman, and are inimical to beauty, because they depress, and hence sow the seeds of disorder. It is

"Vital feelings of delight
Shall rear her form to stately height."

VENUS OF MILO.

You cannot make the girl too happy and light of spirit, for happiness is the only natural tonic we can give the nerves. They respond so beautifully to it that the wonder is we haven't schools the wide world over for teaching the art of cultivating happiness, together with the great truth that its one unfailing source is within ourselves.

Graceful motions and bearing of the body always give the impression of reserve strength, the repose of perfect poise based upon inward vitality. Now, this vitality is both physical and mental; the first giving muscular strength, and the second the nerve-control which springs from confidence and serenity. One word more concerning habit: In matters physical, we come by nothing intuitively. No one plays Mendelssohn's "Spinning Song" till the muscles of the fingers have been trained by repetition to automatic velocity in its peculiar technique. And thus in everything we are creatures of training; that in which we are "assiduously trained becomes habit, and habit becomes second nature. All our thoughts and emotions are closely connected with our sensations. Fear chills the blood; love and hope warm it. . . . The attitudes of the body correspond with the emotions of the mind, and the attitude of weakness and fear contracts the chest, compresses the lungs, retards the action of the heart, and brings a thousand physical ills in its train; while the attitude of firmness, courage, and hope expands the chest, makes vigorous the action of the heart and lungs, and brings health."

The Grecian philosophers formulated the principle that the soul and body should be trained together, for they had an earnest and lively comprehension of their interrelations, which made the training of one without due consideration of the other a distinct disadvantage. The Greek ideal of beauty and goodness was the vision of a fair soul in a fair body. But the profound significance of this truth was lost sight of by the early Christian Fathers, who, under the mistaken idea of disciplining the body, degraded it. The

centuries which followed heaped error upon error, belittling the soul as well, and clipping its wings of freedom. The true science of life, all the Divine purpose in imposing this earthly discipline upon the souls of men, was so sedulously perverted that the upbuilding influences of happiness and joy in the beautiful, whether concrete or abstract, artistic or ethical, were placed under the ban as snares of Satan.

Truly, humanity has made a vast stride forward in freeing itself from the long-established dogma of the antagonism between mind and matter. And yet it seems to be a circle that we have traversed, or, rather, a great spiral coil; for we have come back to the Greek, but we are above him. Our spiritual life is higher, hence ethical purpose is more exalted and refined, yet it is only the upper stratum among our teeming millions who enjoy the privileges of physical culture which were the recognized heritage of every Greek. Plato taught that "The young citizens must not be allowed to grow up amongst images of evil, lest their souls assimilate the ugliness of their surroundings. Rather they should be like men living in a beautiful and healthy place; from everything that they see and hear, loveliness, like a breeze, should pass into their souls, and teach them without their knowing it the truth of which beauty is a manifestation."

And thus we go back through all the centuries of our Christian era to find in Pagan Greece a maxim which if it could be applied universally would educate crime out of existence. Already a beginning has been made by humanitarians who have inaugurated experimental systems in many centres of educational and relief work among those children whence come recruits for the criminal classes. The first efforts were direct appeals to the mind through objects of beauty; as pictures, flowers, pleasant environment, cleanliness, and order. But the promptest and most gratifying results in character-building, the real uplifting, have

come from the physical training which in correcting morbid conditions and habits of the body lifted the same incubus from the mind. This is the most hopeful stage that has been reached in humanitarian work, and I mention it here only to strengthen my argument for that culture of the physique which ultimates in harmony—hence beauty—both in action and in repose.

In their beneficent aims for the advantage of the daughters of men, the followers of both Hygeia and Venus have found their most powerful ally in physical exercises, and so thoroughly has this branch of human development been studied and systematized that the subject is now sub-divided into therapeutic, educational, and æsthetic, or psycho-physical, exercises.

When Descartes proclaimed the theory that if it could be possible to perfect the human race the means must be sought through medicine, he used the word in a sense not generally understood, not meaning cure but care. We go even further now and make of medicine merely an assistant, sometimes only a staff for the mind to lean upon, and find in exercise the remedy for many diseases and abnormal conditions, and the means for perfect development.

The Swedish Movement Cure was the first therapeutic method generally known in modern times, though the Greeks understood it well, and consequently the opinion has prevailed that all Swedish systems were remedial; but the Swedish educational exercises are quite as valuable as the so-called "movement cure." The Swedish system was arranged by Dr. Ling, of Sweden, nearly a century ago, and he studied every system known, beginning with Greek gymnastics, and tested the hygienic value of every movement, rejecting all that encouraged or permitted bad postures or which possessed no remedial influence. From them all he selected sixty elementary movements based upon the theory of systematized progression. Later students with the advantage of modern science have introduced

many improvements and changes in the movements but retained the theory.

Remedial Swedish movements—medical, or therapeutic, gymnastics—are designed, as the name implies, to cure; that is, to restore normal conditions and correct abnormal ones. In very many organic diseases they are more efficacious than any medicine. The educational exercises are aimed solely to promote the most perfect and harmonious development of the body. Due training of the body and maintenance of health were the first part of the education of a Greek child. But Prodicus, experimenting successfully upon himself, was the first to point out the therapeutic value of gymnastics, and he formulated a method which was amplified and improved by Hippocrates. Galen, also, and all ancient medical writers laid great stress upon the importance of gymnastic stimulants of the physical functions.

One of Dr. Ling's fundamental principles is: "The gymnastic value of an exercise depends upon how it combines the greatest effect upon the body with simplicity and beauty of performance." The advocates of the system lay very great stress upon the importance of a rigid adherence to the theory of progression, not only in the arrangement of the movements for daily exercise, but in their evolution week after week.

Baron Nils Posse gives the following order for educational movements:

1. Introductory exercises.
2. Arch-flexions.
3. Heaving movements.
4. Balance movements.
5. Shoulder-blade movements.
6. Abdominal exercises.
7. Lateral trunk-movements.
8. Slow leg-movements.
9. Jumping and vaulting.
10. Respiratory exercises.

The introductory exercises are what in military drill would be called "setting-up exercises," initiating the student in muscular control, correct posture, and attention. Arch-flexions are the bending of the trunk, especially backward, with arms raised aloft, which draws the lower ribs

apart, vaults the chest forward, straightens the dorsal region of the back, and strengthens the lower muscles of the abdomen. Although apparatus is used with some of the movements, the Swedish system does not depend upon it, hence it is considered very practical for home use.

Miss Marguerite Lindley says: "Every Swedish movement is the embodiment of mechanical, psychological, and physiological laws. . . . The mechanical laws . . . are mainly those of leverage, resistance, and poise, or equilibrium. The physiological are those relating to organic, muscular, and nervous conditions. The psychological relate to the development of courage and skill, and to repose and will power, which are employed in localizing the energy to certain groups of muscles while isolating others; in fact, causing a muscle to follow the thought, or, as more commonly expressed, 'willing a muscle.'"

Miss Lindley has arranged a series of Swedish movements without apparatus for home practice, and adapted them to American women and children, which she has published under the title of "Health in the Home." Those who cannot have the advantage of a skillful and thoroughly trained teacher will find the book a valuable aid, but the importance of instruction where it is possible to obtain it must not be underestimated. Still do not make the mistake of believing that any teacher is better than none; for a thoroughly scientific book and an intelligent woman can together achieve better results than a so-called teacher who is but half-equipped for her profession, and too often is entirely ignorant of both physiology and anatomy; a knowledge of which is of course indispensable in directing exercises for the correction of physical defects. Specific defects, also, require specific treatment; hence the necessity of individual direction in order to reap the full benefit which is now attainable through physical-culture exercises.

To have value, development must be harmonious; therefore, the aim for every woman is the perfect balance and

equilibrium of all parts, not mere muscular development. Nature must be encouraged in all normal activity, and at the same time care must be exercised to correct abnormal tendencies,—the erratic idiosyncrasies which will crop out and which are stronger and more assertive than normal inclinations. I once knew a young girl of perfectly symmetrical form who had so vicious a habit when standing that she appeared deformed. She lopped over on one side, making that leg bear all the weight of her body and thrust the abdomen forward in painful prominence, then slightly swayed, or twisted, the whole trunk, one shoulder being at least three inches higher than the other. Though she was gentle and lovely in character, and amenable to all other correction, habit had so fixed this singular fault that it was as difficult to overcome as a radical physical defect would have been.

The habitual pose of the body is the first matter which should receive critical attention. Conventional movements are so often based on error. When faults of position or motion and unequal or inharmonious development are once recognized, the task of correction is simplified to devising those exercises which will correct these. Curvature of the spine is caused by a bad posture which favors weak muscles and hence encourages their degeneration; for it is a natural law that everything which is not used is dispensed with as soon as possible, and consequently being "out of commission," as it were, is all the time deteriorating.

Predisposition to curvature may be hereditary or arise from malnutrition or from sleeping in poorly ventilated rooms, which from vitiating the blood and lowering the tone of the whole system encourages abnormal conditions in whatsoever chances to be the weakest part of the body. The carrying of unequal burdens—sometimes nothing more than a bag of school-books always on one arm or shoulder —may produce curvature of the spine or an irregular development of the shoulders. Thus it is imperative that chil-

dren should be trained to good habits of posture. Every group of muscles has its corresponding opposing group. If the two be not equally exercised, one is stronger and longer, hence unequal development,—deformity, if it be pronounced. The remedy is naturally the encouragement and stimulation of the weaker muscles by special exercises.

There is a constant giving and taking—technically called exosmose and endosmose—in every minutest part of the body, and anything which retards this or prevents the normal cellular activity creates disease. It is the enforced inactivity of brain-workers and the voluntary inactivity of a large majority of women which creates the diseases to which they are prone, for a certain measure of physical exercise is required to stimulate this healthful interaction. Increased pressure of the blood through accelerated circulation renders this process of assimilation and elimination much livelier, gives the necessary impetus to the flow of lymph and the circulation through that source of so much evil, generally through abuse, the liver; and the resulting thorough internal activity reacts immediately in the most beneficial manner upon the mental and moral nature, imparting such a consciousness of reserve power that ease of manner, self-possession, resolution, and confidence follow as a matter of course.

Emerson, emphasizing natural law, says: "The child with his sweet pranks, the fool of his senses, commanded by every sight and sound, . . . lies down at night overpowered by the fatigue which this day of continued pretty madness has incurred. But Nature has answered her purpose with the curly, dimpled lunatic. She has kept every faculty, and has secured the symmetrical growth of the bodily frame, by all these attitudes and exertions,—an end of the first importance, which could not be trusted to any care less perfect than her own." The pity of it is that so many mothers are blind to Nature's teaching and ignorantly pervert divinely implanted instincts by unwise restraints. It

is artificial methods of life, habits, and customs, that produce most of the evils from which humanity at present suffers.

Natural posture is perfect, as bears witness the arrow-like Indian. The splendid forms of the people of Upper Egypt and especially Nubia were objects of Lady Duff-Gordon's constant admiration. At the Upper Cataract were two beautiful Nubian women whom she first saw bearing antique water-jars upon their heads. Their superb figures and pose were purest Grecian in type, and she felt as if they had just stepped out of a wall-picture; their very dress and ornaments were the same as those represented on the tombs. They required no physical-culture exercises either to develop their figures or to stimulate circulation and respiration; for in that favorable climate life is passed mostly out-of-doors and bodies are never starved for fresh air, while the mode of life insures healthful activity.

The fatal defect in our civilization is that we have failed to recognize the importance of developing strong bodies first to hold sane minds; and that the brain and nerves, our medium of communication with this world, are a part, and much the most delicate part, of the physical entity, and necessarily are most sympathetically and *structurally* affected by everything that lowers its vitality. The first to observe this tendency in modern life was Rousseau, who, in the last century, endeavored to arouse public attention to the widespread deterioration in physique which general indifference to athletic games and exercises had brought upon the human race, and he urged their introduction into the school curriculum. But it has taken over a century to excite anything approaching general interest in this so important reform, and though we have gone back to the Greek for his principles and theories we have not yet approached his universal application of them. An important step in advance will be taken when it is generally known that there are different degrees of deformity. Plato maintained that

those who were educated in mind and morals only and possessed untrained bodies were cripples.

The judicious adjustment of physical to mental training doubles the ability to do brain-work, and transforms tasks into positive enjoyment; for the lightness and exuberance of spirit which go hand in hand with the active body stimulate the mind and all its faculties, and the alertness of attention and memory thus gained halves every mental effort. When the vital system is depressed by sluggish action, the labor of the brain becomes feeble and defective; it is quickly exhausted; and the lashing it to simulated activity by medicinal stimulants makes fatal drafts on futurity. Encourage natural activity by natural means and the brain is a most willing servant, gaining strength and ability with every task.

Herbert Spencer in an eloquent argument against the forcing system, whose effects he claimed were even more deleterious upon girls than upon boys, says:

"In the pale, angular, flat-chested young ladies, so abundant in London drawing-rooms, we see the effect of merciless application unrelieved by youthful sports; and this physical degeneracy exhibited by them hinders their welfare far more than their many accomplishments aid it. Mamas anxious to make their daughters attractive could scarcely choose a course more fatal than this, which sacrifices the body to the mind. Either they disregard the tastes of the opposite sex, or else their conception of those tastes is erroneous. Men care comparatively little for erudition in women; but very much for physical beauty and good nature and sound sense."

There has been a brave change since Spencer wrote thus, for the most sensible fad ever approved by Fashion has induced many women and girls to pursue out-of-door sports with healthful enthusiasm; but, unhappily, these privileges are restricted to the favored classes, and the light has not yet spread much beyond what we might call the dawn of promise for the masses.

"Never since the world began was the art of body-building so well understood as now." It remains only to

rouse the public to an appreciation of its value. The systems of physical culture are multiplying fast, all with a *clientèle* of earnest advocates who will try to prove to you that theirs is the "one and only." That it does not so much matter, however, by what particular system or method you exercise, as that you do it, is proved by the shining examples who have worked out their own salvation without either books or teacher, and with no aid but their own good sense, perseverance, and determination. Those who are seeking for knowledge and help will find it.

Think not that all training must be given to the girl, and that in adult life there is no hope to gain advantage from physical exercises. On the contrary, they are all the more important, because, in the majority of cases, women lead so inactive lives that they have much greater need of the physical stimulus which exercise alone can give. All occupations which compel or encourage the holding of the body in the same position for a long time are detrimental to its symmetry and health.

Prof. Blaikie ("How to get Strong"), dwelling upon the resulting condition of such bodily inactivity, says: "Nothing is done to render the body lithe and supple; to develop the idle muscles; to deepen the breathing and quicken the circulation—in short to tone up the whole system. No wonder such a day's work, and such a way of living, leaves the body tired and exhausted." The underlying law of beauty being harmony or symmetry, as previously explained, so the underlying law of symmetry is equalized, balanced movement; and the absorption of nutriment which results from the consequent muscular contractions is taken up much more by the nerves even than by the muscles. This is the secret of the beneficent influence upon the nervous system which every woman reaps from physical exercises.

All exercise to be beneficial must arouse interest and divert the mind into new channels. To restore it after ex-

hausting labor, it needs not only absolute rest from the previous train of thoughts but that incentive and diversion which entirely different subjects impart. This gives buoyancy and inspiration. In the gymnasiums of our women's colleges where regular attendance is compulsory, this absence of incentive was noticed, as also the fact that the exercises, whether heavy or light gymnastics, were apt to degenerate into mechanical work; and it was found that some of the ploddingly studious girls kept their minds on their lessons every moment, taking only a languid interest in the exercises themselves, and not at all appreciating or understanding the important advantage of turning the thoughts into a different channel.

This it was which led to the introduction and encouragement of all games and sports which could excite emulation and lure the students into free out-of-door exercise. At Cornell, the women students have formed "The Sports and Pastimes Association," which fosters any number of clubs devoted to special pursuits; as, golf, tennis, fencing, swimming, rowing, cycling, and basket-ball. Active membership in a club exempts from gymnasium work. The enthusiasm, activity, and energy thus aroused are in themselves re-creating; while the desire to excel increases the interest in regular gymnastic exercises, because students find in them a means of developing certain skill, and they ceased to be aimless.

The brain derives a twofold benefit from these pastimes, for a different set of nerve-cells are being taxed, and consequently trained, while those used in study are being recuperated by rest. Observation, attention, penetration, foresight, and precision,—these are the faculties which are given a course of mental gymnastics and gain strength and readiness with the repetition of exercise. Someone has said: "To play gracefully and accurately is an evidence of the best physical training," and it might be added, of valuable mental training as well.

But aside from the physical and mental benefits, there are important social results from this intimate association of women in organizations. It draws women out of themselves, broadens their views, and trains their judgment into greater accuracy, and cultivates a charitable tolerance for opposite opinions and personal idiosyncrasies. George Eliot packed a volume of good advice for women into exquisite brevity when she said: "The best lesson of tolerance we have to learn is to tolerate intolerance." And this close communion of women and girls in the intimate companionship of mutual interest and pleasure is excellent discipline for acquiring this attractive ethical pliability.

In small towns where social opportunities are limited, and people are prone to settle into a dull, unhealthful monotony, a stagnation that affects both minds and bodies, a sports-and-pastimes club would introduce new life and vigor which should elevate the whole community, by drawing the people nearer together in mutual interests and enjoyment and broadening the mental horizon beyond the petty round of daily duty. Statistics prove that our insane asylums are recruited from the ranks of those whose humdrum lives cause their minds to grow inert; and, from lack of outside interests, they devour themselves. It is a habit of life which is most dangerous, and oftener drifted into voluntarily than from any force of circumstances; and all those who have the progress and welfare of the human race at heart should oppose their influence to it whenever opportunity offers. Nothing good ever came out of stagnation. The unchanging law of the universe is life and motion. These are the forces that move the world and bring to us all good, and our bodies are microcosms obeying the law. In torpidity is disease and death; in motion, progress, development, and ultimate perfection.

It is quite generally conceded that successful physical culture never loses sight of the importance of combining the regular gymnastic drill, whether with or without appa-

ratus, with the Delsarte system; the former promoting health and symmetry and the latter supplying grace and freedom of movement. Muscular strength—*per se*—beyond the point of health and harmonious development has not been sought, nor will it ever be; for it is neither needed by woman nor does it enhance her attractions. Indeed, so great is the fear of these being lessened by physical exercises that already a woman physician, Dr. Isabella Kenealy, of England, has voiced a protest, which, naturally enough, is exciting ridicule. It is suggested that Dr. K. is thinking of her own medical practice which the increasing health of women renders insecure. The doctor's book brings out the fact that "There has been a great change in English girls during the last thirty years." She does not deny that the girl of to-day is happier for her abounding health and confers joy on all around her; but advances the very weak argument against athletic games and exercises "that athletic girls are less womanly than they should be."

Now this ridiculous condemnation of healthful habits all comes from the fact that there are here and there mistaken girls who affect certain masculine ways and cultivate a degree of mannish attire, never becoming or attractive. As an instance: I sat studying in a public library recently, and observed at the table back of me a blonde youth who was a stranger. Rising and passing his table, I received a mental shock when I noticed that the nether garment of the creature was a *skirt*. I think I never quite appreciated before the heinous offense against her femineity which a woman commits in usurping mannish clothes. My equilibrium was as painfully upset as if I had seen a monstrosity.

There is a happy medium, the *juste milieu*, which good taste and good sense can always attain. The sensible woman and girl will not be swerved from their pursuit of health, or consent longer to be "the chief support of the doctors," because a foolish few find means of perverting the good. If further incentive to exercise be needed hear what

Mr. Finck says in his book, "Romantic Love and Personal Beauty":

"Always bear in mind that grace of movement often excels beauty of form in the power of inspiring love. And remember that any pains you take to acquire grace will not only multiply your own charms, but will establish a habit of graceful movement in your muscles which will be inherited by your children."

The first step is to critically examine yourself; find out the weak places, the undeveloped parts or side of your body, and by special effort strengthen the weaker muscles. Once this is done,—and it is surprising what a change can be wrought in a few months, with only an hour's work daily,—equal work for all the muscles will keep the body in perfect health. Not only that: it will put it in an attitude of resistance to all disease, making you practically *immune*. It is torpid organs and vitiated blood, causing a generally low state of vitality, which expose one to any malady the germs of which chance to be in the air; while colds with all their attendant evils are simply a matter of course.

In a French family of *ancien régime*, all the women have been noted for the superb carriage of their figures,—*un port de déesse*,—and it is acquired by this drill in youth: Three times a day, morning, noon, and night, they stand against a door in such a pose that the back of the head, shoulders, elbows, back, palms, and heels will press against it. At first, it is difficult to hold the pose longer than a half-minute; but as soon as it can be, it should be maintained for one minute. In the family mentioned, the exercise is not necessary after the eighteenth year, and never is the injunction, "Hold yourself erect, my dear," needed. It is an admirable test of pose, however, and a good exercise for all ages.

There is an unfortunate misunderstanding about what an erect posture is (See illustration, Nos. 1, 2). Many women habitually droop the torso at the hips, throwing the abdomen forward, which distends its muscles but does not

strengthen them; and think themselves straight if they bend the shoulders back, carrying the head in the same line and tipping the chin out. This throws the whole body out of balance and is a fatiguing strain upon the whole spine and especially the small of the back. You are also out of harmony in this position, destroying natural curves of strength and producing meaningless, weak ones. It is this unnatural pose that makes so many women and girls tire out quickly when either standing or walking.

When you rise to your feet, the whole body should take on a slight degree of tension, bringing all the extensor mus-

No. 1.

No. 2.

cles into equal action, so that every part does its work without perceptible strain. In this balanced position the weight of the body is borne by the balls of the feet more than the heels; the chest is held high, and a plumb-line dropped from it would fall only slightly in advance of the toes; which, if the heels be placed together, should be turned out at an angle from each other of forty-five degrees. There should be no concave curve at the waist in the profile outline. The weight of the arms should hang from the shoulder-blades, not from the chest. With the weight thus supported, the line of gravity falls within the line of the feet; if you can rise upon the toes without swaying the body, the position

desks are too high, and the strain upon the wrist and forearm when writing continuously is very much greater from the shoulder and elbow being thrust out of normal position so long. All bending at the desk, also, should be from the hips when necessary to lean over at all, and *never* from the waist. It will require constant attention, at first, to overcome a fixed habit; but the reward in fatigue saved and increased vitality is immense.

The sagging of the body by the bend at the waist and resulting cramped chest, depresses all the vital organs in *position* as well as condition, distending and relaxing their muscles till they lose the power of contractility. An enlarged, protruding abdomen, with torpid bowels; a weak heart, from its cramped position, and a dyspeptic stomach; half-developed lungs, susceptible to every change in the weather,—these are some of the perfectly natural results, arguing from cause to effect. For all these organs are thus forced from an inch to three or more inches below their natural position when the body is held correctly. All these evils can be overcome if you have sufficient will-power to apply the remedy.

Deep breathing should always precede and accompany all physical exercises. There is no voluntary function of the body which is habitually performed in so slovenly a manner. Mr. Finck says: "Nineteen people out of twenty are too lazy to breathe properly." And he thinks there are few whose personal appearance would not be improved by frequent "meals of fresh air, consisting of twenty to fifty deep inspirations in the open air." I shall have more to say upon this subject in the next chapter; but please hold in mind the fact that the lungs are Nature's first and principal agent in purifying the blood. If you stint them of oxygen the venous blood returns to the arteries unpurified, and when it reaches the minute capillaries where the current has lost all its swiftness and where good blood yields its rebuilding nutriment to the tissues, part of these impurities are re-

tained and Nature tries to force them through the skin, often with unsightly results.

As soon as correct pose is natural to you, and for your encouragement I will tell you that it will become second nature as soon as you bring your will-power to bear upon it, the preliminary work for all exercises will be to take four or five deep, full breaths. Inflate your lungs till you feel that the air has penetrated the remotest corners, and, holding it while you count six, exhale it slowly and *thoroughly*. Be sure that no part of the work is slighted, that the upper lungs are as completely aërated as the lower. As a rule men almost ignore their upper lungs, hence are more liable to consumption than women.

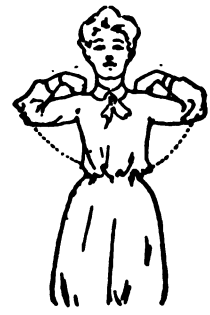
The following breathing and arm exercises combined, which expand the chest and correct round shoulders, are excellent to begin work and to alternate with leg and trunk exercises: Arms hanging free from shoulders, place hands side by side, palms inward with thumbs interlaced, in front of you; then raise the arms straight up over your head, at the same time inhaling a deep breath. When you can control the perfect poise of your body, and shoulder and chest muscles are flexible, you can raise them without effort. The measure of its difficulty will be the gauge of your habitual errors. Hold the arms while you count five; then slowly lower them while you exhale the breath. Repeat five times. When you have sufficient control over your breathing, try the same movement with this variation: hold the breath while slowly lowering the arms; then release the breath slowly. In these movements, throw the nerve force into the finger-tips, as if you were stretching the whole arm.

Extend the arms above the head in same position, then take a deep breath while you bring them down slowly in a semi-circle at the sides till the little fingers touch the legs, palms being outward. This is one of the best exercises to secure perfect poise. Alternating this motion, that is, right

The following exercises are specially intended to strengthen the abdominal muscles, take off redundant flesh, stimulate the digestive functions, and to make and keep the body lithe and supple:

Draw in the muscles of the abdomen, inhale a deep breath as you raise the arms above the head till the thumbs meet, and flex the torso backward as far as possible; recover pose, and as you exhale bring the arms down in a sweeping curve forwards, till the finger-tips touch the floor in front of your toes (See illustration, No. 8). Avoid haste in all ex-

No. 9.



No. 10.

ercises, and repeat to point of slight fatigue, not beyond that.

Raise the arms straight above the head, palms together, take in a deep inspiration, and rise at the same moment upon your toes, take five or six steps across the room; then expel the breath as you lower the arms and come down upon the heels.

With arms hanging lifeless from the shoulders,—technically called "decomposed," or "devitalized,"—bend the body sidewise as far as possible, first to the right, then to the left; repeat eight or ten times (See illustration, No. 11). With the arms in the same position and keeping the feet firmly on the floor, twist the body as far as you can turn it

from right to left and *vice versâ*. This wringing exercise greatly stimulates the digestive organs, wears away fat, gives firmness to muscles, and expels stagnant juices.

This exercise also has a most tonic influence upon the same organs, but is a little harder to execute: Lie flat on your back, either on the floor or on a cane-seated couch,—something that will not yield beneath you,—and, with arms at your side, raise yourself to a sitting posture without touching anything to assist you (See illustration, No. 14). The trunk of the body forms the fulcrum, and the effort specially stimulates the intestines to perform their duty,

No. 11.

No. 12.

hence is valuable in all cases of constipation and for reduction of flesh.

Standing upon one foot, raise the opposite knee, and clasping it with the hands draw it as high and close to the chest as possible (See illustration, No. 12); lift each leg thus five or six times consecutively, with vigor, and alternate the motion with both legs, repeating five times.

Lie flat on your back, and, without bending the knees, lift the legs till the feet are straight up, and raise the arms vertically (See illustration, No. 13); do this with breath exhaled, and inhale deeply as you lower them. Repeat five times, and follow with this: Stand erect, fold the forearms

in this exercise will develop all the muscles involved (See illustration, No. 6); but it should also be taken with devitalized hand; that is, hanging limp from wrist, being thus one of the best exercises known for gaining control of the arm and hand in graceful gesture. Don't make the mistake of *holding* the hand bent. If it is perfectly free, in the backward swing of the arm it will be thrown out; and in the lower part of the circle it will hang limply down beside the body.

Always remember that in parting with feminine weakness, it is quite unnecessary to allow the charm of feminine delicacy to disappear also; and that in gaining the grace of freedom and ease of movement, which out-of-door exercise and games especially impart, it is necessary to guard against boldness and a certain masculine coarseness which utterly defeat our aim to increase woman's attractions.

In the principles of bodily expression, rightly interpreted, of the great artist Delsarte, we find the correction and antidote for any disposition to err in this respect. In strict coordination with development exercises and the strengthening of weak parts of the body, the attainment of flexibility is one of the first conditions to work for, and this is the first step in Delsarte principles. One of his maxims is: "Strength at the centre, freedom at the surface." And this freedom is acquired through learning to withdraw the will-power. The arm exercises just described illustrate this.

That admirable exponent of Delsarte, Edmund Russell, says: "We are all natural-born Delsartians; but from the moment our education begins—say at six years of age—Nature is slowly but surely stifled." If Delsarteism were better understood and more widely, the "rest-cure" sanatoriums would be empty, for neither men nor women would lose control of their nerves. The nerves are worn out more by needless tension than by the strain of actual use. Delsarte philosophy teaches how to train the nerves,—how to rest; and how to move and act with the utmost economy

of force. The developing movements train to habits of grace, by correcting awkward motions and exposing their waste of force.

The Delsarte relaxing—or "decomposing"—exercises are better than medicine for nervous, overworked people, showing how to prevent wasteful nerve-tension and conserve vital energy. As they are essentially calming in character they are valuable remedial agents for insomnia. The laws of expression which underlie all art furnish a key to character-study; and all the Delsarte work develops self-possession and, therefore, banishes self-consciousness. It will be noticed that all feats and exertions, all displays of muscular agility or strength are both avoided and discouraged, the aim being to reduce the body to a state of passivity, take out all the angles, jerks, and discords, and train it to move in harmony with Nature's laws.

It is a gross misinterpretation of the system which represents it as teaching a special and arbitrary code of gestures and mannerisms, as artificial as they are absurd. The object is to acquire perfect mastery over self, and to make the body a facile interpreter of the thoughts and emotions. By the equalizing exercises given to obtain this control, often over muscles that have never co-operated, harmony, rhythm, symmetry, and grace are taken on as a garment.

Naturally, the work begins with relaxing movements to reduce the body to a condition of perfect freedom and flexibility and remove all tension. Pianists know what a limber wrist means, and have, perhaps unknowingly, always practiced devitalizing, or relaxing, the hand in octave and chord passages; similarly, if they have any skill in running scales in thirds, they have devitalized their fingers. The exercise consists in shaking the different parts of the body till every joint is loosened, the muscles gently put in action, and a tingling, magnetic feeling passes through the limbs.

The order of practice is to begin with the fingers; withdraw the vital force to the kunckles; make the fingers feel

as dead as possible, then shake them. The hand comes next; then the forearm; entire arm; head; torso; foot; lower leg; whole leg; eyelids; lower jaw. You shake the forearm from the elbow as if it were dead; then raise the arms above the head; withdraw vitality and let them drop like dead weights. They will swing from the shoulders like a pendulum. In the rotating abdominal movements already given the arms should be devitalized at the shoulders and swing lifeless.

To decompose the head, drop it to the left; its own weight will carry it round in a half-circle, just as a child's drowsy head rolls around. Drop it again backwards, forwards, and to the right (See illustration, No. 9). Then make it describe a circle around the entire neck very slowly. Repeat five times. Stand on a footstool for the leg movement; changing from one foot to the other, and by a slight motion of the entire body, swing the free leg.

The relaxing exercises are followed by a series of swaying or floating movements to secure harmonic poise, the principle of which is that when the weight of the body is transferred from one leg to the other, the head inclines to the strong leg and, to maintain the poise, the torso from it; that is, toward the weak, or inactive, leg. This principle is exemplified in the well-known statues of the Apollo Belvedere, Venus de Medici, and Artemis. All these exercises are practiced very slowly and require a good deal of time. "Delsarte discovered, he did not invent; and true Delsarteans claim to have no patent on Nature, but to have been assisted in understanding Nature's laws by Delsarte's formulations."

Psycho-physical culture may be considered an outgrowth or crystallization of Delsartean principles. It is the perfect unison of harmonic gymnastics and dynamic breathing, and is based upon rhythmic motion and the spiral curve: as, this being the motion of all nature, the fundamental principle of all life, it assists every natural motion

and generates vital force. The claim is made by its advocates that ordinary gymnastic training, though developing muscle, does not stimulate the real vitality of the organism. This, however, must be taken with a grain of salt. That it stimulates a higher vitality and comes nearer to its real source in soul-force, as it demands the active participation of the mind, there cannot be a question.

The basic principles of the system, as explained by Mrs. Stebbins ("Dynamic Breathing and Harmonic Gymnastics"), are expressed in a trinity—Emotion, Concentration, and Aspiration—representing the perfect being. The emotional is the soul-principle and corresponds to felt thought, the highest forms of which are love and charity. The concentrative expresses executive thought, implying work and energy and is physical; while the aspirational has to do with the higher emotions, and corresponds to sublimity and the ideal. These basic principles defined outside the realms of metaphysics are moral, vital, and mental; or, again, emotional, physical, and intellectual.

The first and most important factor in the exercises is dynamic breathing,—which I will explain later,—correlated to and strengthening the power of thought,—the mental principle. Second, gymnastic exercise with rhythmic harmony in every motion; the claim being that the correlative action of mind, nerve, and muscle induced by this method produces the maximum diffusion of activity, energy, and equability of nutritive effects. The third factor, completing the trinity, is that of mental imagery, elevating through the creative power of thought the moral nature. These principles and factors all interact one upon another, of course, all three being involved often in a single exercise. This analysis explains the underlying laws of the system. Psycho-physical culture "insists on the beautiful in strength and the graceful action of every voluntary muscle; because Nature, in her natural development, is first angular, then circular, and, finally, spiral; consequently, always beautiful."

There is no reason why a woman who has household duties to perform should not turn them into healthful physical exercise, instead of fatiguing work. The source of the usual pain and weariness attending them is that the body is not held in the pose which equalizes muscular action. If she would remember that the chest *not* the abdomen should be most prominent, and would keep it active with deep inhalations, and would loose the tension of unemployed members, there would be no waste of energy or nerve-force. Conservation of strength is something all women need to learn; and a wise hoarding that will enable them at need to spend lavishly, as in those emergencies which suddenly make exhausting drafts on even the most favored. But, above all, they must cultivate a wise discrimination in recognizing true need. So much valuable strength which would enable a woman to be a joy to all around her is simply frittered away.

It is quite possible, if the body is held in correct harmonious pose, to derive equal benefit from sweeping a room as from the same amount of gymnastic exercise. The only unfavorable condition is the dust, which should be allayed by some of the expert housekeeper's expedients; as wet tea-leaves, salt, or dampened corn-meal. The lifting and moving of furniture, if it be done with the muscles of the arms and *not* of the waist,—as when stooping, with lowered chest, rounded shoulders, and protruding abdomen,—will develop the upper-arm muscles and chest quite as effectively as the same amount of exercise taken with Dr. Sargent's pulley-weights. With these, a middle-aged man has been known to increase his chest-girth two inches and five eighths in six weeks, exercising one hour daily.

In sweeping (See illustrations, Nos. 15, 16, showing the wrong and the right way) the "swaying" Delsarte exercise can be put to practical use; as, moving from left to right, advance left leg bearing weight on ball of foot, incline head towards it and torso slightly backward, which inclination

hollows the back at the waist-line, and raises the chest. As the right leg follows and bears the weight, the head inclines backward and torso forward, and there will be easy play of the ankles. Reverse the motion and sweep to the right. The strength used on the broom must come from the arms. Don't be afraid of high-reaching in seaching for cobwebs, dusting pictures, etc.; it is an excellent exercise for both slender and fleshy women.

To give greater force to my caution with reference to habitual correct pose, hear what Dr. Sargent says on the subject: "How important it is, therefore, that the simple

No. 15.

No. 16.

matter of attitude or position at work should receive careful attention. A faulty position, while standing or sitting, not only cramps the vital organs, and interferes with the important functions of respiration, circulation, and digestion; but also weakens the muscles that are kept almost continually on the stretch during the working hours."

Crossing the legs when sitting is a bad habit which from compressing the arteries and veins encourages rheumatism and paralysis. (Four months after this was written, an alarm was sounded through the press that the same habit caused appendicitis.) The seat should be so adjusted that there would be no temptation to indulge in this inelegant

Exposure to severe cold must be avoided; never let the fingers become stinging cold by handling ice, or by holding them long in ice-cold water. Ankle exercises taken at frequent intervals during the day will aid in stimulating the circulation: Point the toes down to the extremest limit, and move the feet up and down in this way a dozen times; then devitalize them at the ankle and shake them thoroughly. All the other exercises will, of course, assist in overcoming the predisposition, through the general improvement in circulation, respiration, and entire vital tone. The ankle exercise will also warm the feet when in bed.

The most generally convenient time for taking physical exercises is at night when preparing for bed and in the morning before dressing. This obviates the necessity of having a special gynasium suit, or of taking the time to don it; and, of course, the body must be free from all constricting bands, in order to reap the full benefit from the exercises. I shall not engage in a crusade against the corset, for it would be an idle waste of both breath and space. There is, however, no more efficacious means of retarding the circulation and injuring vital organs, lowering their tone so as to predispose them to disease—which condition encourages a red nose, bad complexion, and red hands—than constricting bands anywhere. When once women realize that only absolute ease and freedom of the body can secure that health, grace, and symmetry which all are ambitious to possess or acquire, we shall see fewer distorted, deformed torsos.

CHAPTER V.

CORRECT BREATHING AND WALKING: THE CARE OF THE FEET.

"Go forth under the open sky, and list
To Nature's teachings."

"The tempered light of the woods is like a perpetual morning, and is stimulating and heroic."

"A full-breathing pair of lungs are a full measure of life-giving and life-supporting organs."

It is one of the curious anomalies of human nature that so many people concede the truth of a theory, yet go on calmly all the days of their earthly lives violating it hourly. We talk glibly about "the breath of life," and should question the sanity of one who proclaims life possible without it; yet though we acknowledge its necessity, nine tenths of humanity breathe as little air as if it were the costliest instead of the freest thing in life, and actually shun fresh air as if they thought it poison.

Pure, fresh air is the source of all life and strength. The want of it vitiates the blood, in which condition every organ in the body may suffer. Half-filled lungs are weakened lungs, offering most favorable conditions for tuberculosis; and the lowered vitality of the body, never freed from impurity, encourages scrofula, typhus and other fevers, and every throat or lung trouble. The habit in which little

children are often indulged of sleeping with their heads under the bed-clothing in a most pernicious one which has been known to cause scrofula in children previously in perfect health.

Theoretically, every one knows that to rebreathe the air just expelled is to swallow so much deadly poison; but, in practice, thousands defy the fact, and toy with the slow, insidious death as long as the minutest proportion of oxygen in the air makes it possible to breathe.

The brain suffers first and most of all for the want of a full supply of fresh air; but even the morals suffer, because the soul is stifled and cannot control the vagrant impulses of a dull mind, which easily falls a victim to the first whisperings of the tempter. All folly finds a ready field, a listening ear to its allurements; the ability to distinguish between right and wrong is dulled, an ill-governed temper results, and passion and laziness have their evil sway undisputed.

It is a grave error to consider breathing entirely an involuntary function, simply because the Creator made that wise provision for the performance of the imperative task during sleep and conditions of extreme preoccupation. It is a fundamental truth, known to all students of hygiene, that what has been recognized for centuries past as normal breathing neither gives the lungs the necessary exercise to develop and strengthen them nor to maintain their integrity, nor supplies the blood with sufficient oxygen to purify it.

The remedy for the evil is in conscious breathing, exercising the lungs by slow, deep, and thorough movements; and every man, woman, and child should, both night and morning and at frequent intervals during the day, give a few minutes' attention to lung gymnastics. The exercise should be taken in the freshest air,—pure, uncontaminated out-door air, where possible. Have no fear of its being cold, for it is impossible to "take cold" while breathing

deeply. The blood is too active to feel any chill. Inhale slowly, always through the nostrils, for provision is made there to arrest impurities which if carried to the lungs would irritate their delicate structure. Prolong the movement till the whole lungs are filled, the lower as well as the upper parts; then give less time to exhaling, and let every other exhalation be forcible and accompanied by an actively felt movement of the diaphragm, which will aid in emptying the stagnant cells in the lower parts of the lungs.

Try to realize to the full that breath *is* life, and that the more air you breathe in the highest state of purity, the deeper your hold upon life will be and the more radiant your health. The lungs have their own muscular power, which in too many cases is but half-developed. This conscious breathing will soon enlarge and strengthen the lungs, and the more frequently you can make the action conscious the better for your lungs and health.

"These exercises are no modern discovery [I quote myself: "Some Laws of Health"]. Thirteen hundred years before Christ the people of India practiced full, deep breathing at regular intervals, daily, using it as a healing remedy for disease; and it was no secret to the old Greek and Roman physicians, who also prescribed lung gymnastics as curative measures. A severe cold can be greatly relieved and quickly cured by conscious breathing; and if treated in the early stages, as soon as the first symptoms are felt, it can be thrown off in a half-hour's time. Many cases of headache, especially when accompanied by nausea and congestion, are quickly relieved; and phthisis when taken in the incipent stages can always be greatly alleviated, and is often cured by this simple means."

Although the therapeutic and ethical value of deep, conscious breathing was lost sight of by the Occidental peoples for long years, the Brahmins and Yogis of India have always understood it, and have developed its cult to a degree which we yet but partially understand. It is by

means of a mysterious power of storing the breath, laying up a reserve of oxygen and ether, that the Yogis are enabled to exhibit their seemingly miraculous feat of living during months of interment. There are several methods of Yoga breathing, and among them the following was taught by a high-caste East Indian who came to this country during the Columbian Exposition: Close the left nostril and breathe through the right during eight seconds; close the right, and exale forcibly—during two seconds—through the left; inhale through the left during eight seconds; exale through right in two seconds. Thus the nostrils are closed alternately, and the motion of the air through them is first exhalation, then inhalation. It is claimed that when practiced continually it produces the poetry of breathing. I do not commend it for habitual breathing, however, for the exhalations are too short to be thorough.

Mrs. Stebbins' ("Dynamic Breathing") method of practicing rhythmic breathing is more logical and based upon psycho-physical principles. She advances the interesting hypothesis that with every breath we draw, besides the life-supporting oxygen, we receive from the air a certain imponderable essence which science has never yet been able to analyze. She believes "it to be that which constitutes the basis of all life, force, or motion, and the medium for the transmission of all cosmic energy, viz., the *Ether*." It therefore becomes of the utmost importance to us to be able to store as much of this "life-essence" as possible. This is the "vril" of Bulwer-Lytton, and the "odyllic force" or psychic ether of others. Is it, perhaps, the basis of Prof. Rychnowski's new force, "Electroide," which is to displace electricity?

Mrs. Stebbins believes that in a normal, non-active state the brain and lungs "attract only a small quantity of the finer dynamic essences from the atmosphere. But under a strong desire and clear mental image the force of the imagination is such as to electrify the brain and lungs and

make them powerful magnets. . . . In this state they attract an infinitely greater quantity of the life-principle from the air during respiration." Thus dynamic breathing means to dynamize the lungs and brain with the physical life qualities and the finer essences of the air.

The natural development of this theory leads to rhythmic breathing, making the movements of inhalation and exhalation the same and measuring their length by heart-beats, which, of course, differ with people. "A strong, normal rhythmic respiration should be about four heart-beats during inspiration, and *held* for the space of two; then exhaled during four, making ten heart-beats for one complete respiration." Breathe through the nostrils, of course, and mentally count four pulsations of the heart. Count two beats also while you hold the lungs empty.

For deep rhythmic breathing, Mrs. Stebbins directs to inhale while you count seven beats; hold the breath during four beats; and exhale while you count seven, pausing during four. The mental idea to be held during both exercises is that of a "consciousness of indrawing Nature's vitality, with the ability to retain it." As ability to draw deeper inspirations is gained they may be lengthened to ten or twelve beats, always maintaining the same relation between the inhalation, holding, exhalation, and pause between breaths.

Mrs. Stebbins gives also an interesting exercise in Yoga breathing:

"1. Lie relaxed in any easy position.

"2. Breathe strongly with a vigorous vertical, surging motion, with the same rhythm as in Exercise 1. [the 4-2, 4-2], which stretches the whole trunk like an accordion, and let the mind concentrate itself as follows: (*a*) Imagine the ingoing and outgoing breath being drawn through the feet, as if the legs were hollow; (*b*) divert the same mental idea to the hands and arms; (*c*) to the knees; (*d*) to the elbows; (*e*) now breathe through the knees and elbows to-

gether; (*f*) breathe through the hips; (*g*) breathe through the shoulders; (*h*) breathe through the hips and shoulders; (*i*) breathe through the abdominal and pelvic region; (*j*) breathe through the solar plexial region; (*k*) breathe through the upper chest; (*l*) complete this mental imagery with breathing through the head and the whole organism in one grand surging influx of dynamic life."

It is claimed that this exercise "has a peculiar force when the imaginative faculty is so trained that it will quickly respond to the will. This will reacts upon the parts by strong magnetic action and invigorates to such an extent as to merit the name of galvanic respiration, so potent is mind over matter."

Hardly the first word and certainly not the last upon the subject of exercise has been uttered till the all-round benefits of walking have been advocated. It is so closely associated with deep breathing, and, in fact, the two interact one upon another so closely, that it would be but superficial treatment of the subject to consider either exercise by itself. Therefore, it is not surprising that there is quite as much ignorance about the one as the other, and the army of people who don't know how to walk generally ignore the breath of life.

It is another of the puzzles of life that an habitual act should, as a rule, be so imperfectly and incorrectly performed as that of walking. What wayward impulse is it that leads man so astray? Like every other wrong and error it brings its punishment. A dawdling, dragging walk, an awkward, slouching gait, entail exhausting fatigue, because the body is out of poise and every pound of its solid flesh and bone is carried as dead weight, and mostly thrown upon the poor spine. Next to the lungs and stomach there is probably no other part of the body so misused as the spine.

On this subject Mrs. Russell says: "To walk gracefully is to walk well and, other things being equal, to be able to

THE GOLDEN STAIRWAY—BURNE-JONES.

walk a great distance without exhaustion. Here, as usual in the construction of man, real use and real beauty go hand in hand. Utility and beauty are often opposed to each other in the world of things, particularly in the world of man-made things; but in all that appertains to the physiological machinery of the body the greatest beauty is the greatest utility. Any act of work, to be well done and with comparatively little fatigue, must employ a harmonious working together of all the organs. The movements of work, so done, will be graceful."

> "From harmony, from heavenly harmony,
> This universal frame began;
> From harmony to harmony
> Through all the compass of the notes it ran,
> The diapason closing full in man."

When we rise to walk the whole body should be thrown into a state of gentle tension, putting every muscle which harmonious movement employs into vigorous, responsive action, and so perfectly balanced that every part does its work without perceptible strain. The abdominal muscles should hold that obtrusive part in comely restraint,—quite possible even with the portly, if they will but make the effort; the shoulder, hip, and ankle joints should be upon a line; the chest held high, and head erect, but not tipped back. The correct position of the head may be tested by holding a book on the crown. In this position the body acquires its greatest ease, and every muscle performs a maximum of labor with a minimum of waste and consequent expenditure of force.

Deep breathing is naturally an accompaniment to walking, for even involuntarily the exercise impels more thorough respiration; but the more you wont yourself to conscious breathing the better, and a habit of dynamic breathing must increase the harmony of motion. If the lungs be properly inflated, this act alone gives to the body

a buoyancy greatly increasing the pleasure and lessening the exertion of walking. Of course, a mincing or languid step must be avoided. Take a free and firm, but light, stride, balancing the upper part of the body alternately upon each hip—but without swaying it perceptibly, the roll of the hips affected by some is extremely vulgar—and giving the impetus forward with a slight spring from the ball of the foot. "Each time the foot strikes the ground it is the true centre of gravity of the whole body, the moving leg swinging free without any muscular bearing upon the other."

I have in my own experience proved so thoroughly what I affirmed several years ago, that I venture again to quote myself: "Naturally, at first, the mind will have to direct these motions; but the body responds delightfully to right ways of doing things, and if the exercise of walking can be taken where there is much of interest to divert one, it will be found a great advantage; for this ready and cheerful response of the entire body when its muscles are thus called into harmonious action imparts a sense of exhilaration which will make you feel more like a bird than anything else can till flying-machines are accomplished facts."

There is no other exercise so thoroughly invigorating and restorative for over-strained nerves as walking. When there is no organic weakness which is aggravated by the exertion, it is the easiest thing in the world to walk right into health. "Almost all fatigue and all ungracefulness can be traced to a violation of the laws of economy within which the body moves." The people who think they cannot walk, drag one foot after the other, slowly and languidly, and carry the body in a painfully strained position which abuses some muscles and leaves others dormant. This manner of walking would tire an athlete and, of course, utterly exhausts a delicate person. To derive any benefit from the exercise, the step must be light and elastic, swinging the body so easily from one leg to the other that its weight

is not felt. The harmonious play of the muscles imparts a supple grace and litheness that is felt mentally as well as physically, and produces a healthy glow, showing that the sluggish blood is stirred to action in the most remote veins. This manner of walking strengthens the whole body, gives tone to the nerves, and produces just the sort of healthful fatigue which encourages sound, restful sleep.

A walk to be beautiful must be individual; in fact, it cannot help being that, for the motion must be in harmony with your physique, and in nothing are characteristics more plainly discernible, even to the stranger. The step should be adjusted to the height, a happy mean between a mincing tread and a mannish stride. A long reach of the leg causes an awkward hip-movement. The slight impetus forward from the ball of the foot enables one to take a longer step with ease and grace than the leg could naturally span. It is a convenient expedient when walking with taller persons who do not readily adapt their step to yours; and for country tramps I have found it the step of all steps with which to get over the ground rapidly and absolutely without fatigue. The leg must be held straight but not stiff, there being a slight resilience in the knee; and the ball of the foot and the heel touch the ground almost together. The child with heelless shoes should step so that the ball of the foot would reach the ground first. The shoulders have a slight natural movement, in opposition to the feet, but churning and twisting them should be avoided. The arms may sway from the shoulder with the natural motion of the body, but should not be violently swung as if propelling it.

There is no other exercise, not even bicycling, which does for us quite what walking can. Besides stimulating every part of the body, it relaxes, diverts, and charms the mind, encouraging that receptive condition in which it finds the truest growth and expansion. The nearer we can get to the heart of Nature, the more in touch are we with the

deepest sources of inspiration, of goodness, health, and beauty of soul and body.

That inspired teacher of natural law, Emerson, says: "There are all degrees of natural influence, from these quarantine powers of Nature, up to her dearest and gravest ministrations to the imagination and the soul. . . . The enchantments are medicinal, they sober and heal us. These are plain pleasures, kindly and native to us. We come to our own, and make friends with matter, which the ambitious chatter of the schools would persuade us to despise. We can never part with it; the mind loves its old home: as water to our thirst, so is the rock, the ground, to our eyes, and hands, and feet. It is firm water: it is cold flame: what health, what affinity! . . . He who knows the most, he who knows what sweets and virtues are in the ground, the waters, the plants, the heavens, and how to come at these enchantments, is the rich and royal man."

To reap the fullest advantage from the exercise of walking, physical comfort must be secured by convenient clothing, and careful attention must be given to those faithful servants, our feet. A short gown is, of course, indispensable; for the hands and arms must not be constrained by holding a train, and both refinement and hygiene forbid that it should drag. When women thoroughly understand how much the perfect freedom and grace of their movements—and, therefore, those indefinable qualities, beauty and fascination—depend upon the absolute ease and unconstrained action of every smallest part of the complex whole in these so wonderful bodies, it will cease to be necessary for physicians, hygienists, and physical culturists to wage a futile war against the wearing of corsets and deforming shoes.

> "There's language in her eye, her cheek, her lip,—
> Nay, her foot speaks."

Every restricting band arrests circulation, and by so much impairs the integrity of the physical entity. Tight gloves, even, may cause a red nose and irregular heart action. Of all discomforts, however, that mistaken vanity inflicts upon itself nothing equals in its disastrous effects, physical, mental, and moral, a tight, ill-shaped shoe. If properly shod, there is no reason why women should ever be reminded that they have feet. They are no more liable to disease than are the hands, and if as well treated they would give us correspondingly as good service.

Yet in spite of this normal exemption from any weakness, such is the ill-treatment deliberately inflicted upon their feet by multitudes of women, that they precipitate upon themselves many forms of petty, nagging misery, and even have to endure excruciating pain. It is pain that unfits the sufferer as completely for all the duties and pleasures of life as if it were from a graver cause; yet that very source, from its triviality and needlessness, shuts her off from the sympathy which in real sickness helps one to be patient.

It is universally conceded that a pretty foot is one of woman's greatest attractions. In Europe, a tiny foot, if perfect in shape, delicate in contour with highly arched instep, is considered an indication of aristocratic birth, a "hall-mark of race." So often are we told that a man looks first at a woman's face and then at her foot, that the assertion has almost the force of an aphorism. Yet there is a world of misunderstanding concerning the attributes of a really beautiful foot. Proportion is the first element of charm in a foot,—proportion to the height of the person, and in the component parts of the foot itself. The anatomical structure of the foot is so marvellous, so ingeniously adapted for the duties required of it, that no mechanism of human device has ever approached it except by imitation; but it has remained for civilized peoples to attempt its improvement by deforming and distorting it.

The bones of the foot form a system of arches and piers

which are so combined as to bear the greatest weight with the least strain. The strongest pier is in the heel, and the extremest curve of the inner arch forms the instep. The forward, or anterior, pier is less curved than the posterior, and is composed of more bones, with many joints to secure elasticity and diminish the force of shocks transmitted to the arch, the summit of which is at the ankle. Any form of foot-dressing which throws undue pressure upon the forward pier, the ball of the foot, and keeps it there, flattens the arch and broadens the foot. In extreme forms of the high, pointed French heels—as the Louis Quinze—"the excessive elevation of the heel displaces the centre of gravity, and transfers the weight of the body for the most part from the heel to the line of union of the instep with the toes, a series of joints with shallow sockets not formed to bear the brunt of the body-weight."

It is a physical characteristic of the American woman to possess as handsome feet as any women in the world, not excepting the Spanish, Russian, or Polish; yet except among the Chinese, no women treat their feet so badly, in a mistaken effort to improve their beauty. Dr. Shoemaker has aptly pointed out that there is such a thing as a "danger-line of beauty," and native-born American feet often verge upon this, and occasionally pass it. That is, they may be too short for the height of a person. A woman five feet six inches in height should have a foot nine and one third inches long. It should be slender and delicate, not thick nor broad; and in the highest type the instep rises in a gracefully swelling arch. "It should be axiomatic that nothing, except face and hands, can be so aristocratic as a well-dressed, shapely foot; nothing so plebeian as an ill-dressed, clumsy one; and nothing more vulgar than any foot in a shoe manifestly too tight."

Though ages past have shown us many curiosities of footwear, nothing more abnormal or more inimical to the beauty of the foot, and consequently the grace of a woman's

walk, has ever had any vogue than the absurdly deforming and crucially uncomfortable pointed-toed shoe of the present decade. It should be said in their defense that women are not alone to blame for the folly. If the shoemakers did not make them they could not be worn; and if there was anything else to be had in the shops, there is an army of women who would never wear them. They are women who cannot afford their private bootmaker, and often have to buy where they can cheapest; and even the wise woman who knows that the best in quality is the truest economy is equally restricted in style.

It is idle to urge in defense of the pointed toe that the remedy is to buy longer shoes, and that you thereby gain for the foot a slender appearance and give the toes the necessary ease. When a shoe of this shape is long enough to secure this freedom, it is too large for the heel and the ball of the foot,—even with an unusually high instep; and will rub blisters in the most surprisingly unexpected places. An ill-fitting shoe may be too large as well as too small; both extremes are a menace to the health and comfort of the foot.

For that ease in walking which secures a graceful, lissome, and springy step, the shoe or boot should hold the foot with gentle firmness, such as you give to it when you clasp it in your hand; with no pressure to constrict a single muscle or joint, but so moulded to its contours that it rubs nowhere and does not slip on the heel. The very narrow sole is as vicious in its tendencies as the pointed toe. It depraves the taste, encouraging a false standard of beauty, and at the same time impairs the usefulness of the foot. The sole must be of easy breadth and the heel broad and of only medium height.

With such shoes the toes will be straight and shapely as Nature moulded them, and the naked foot will be as beautiful and almost as full of character as the hand. When it is properly clad, also, the foot has an expression all its

own, and its attraction can be greatly enhanced by proper care. Frequent bathing has much to do with keeping it trim and shapely, and as much attention should be given to house foot-wear as to that worn in the street, which should never be retained in the house. It is quite as demoralizing to the feet as to the character to indulge in going slipshod about the house. Those inclined to flat-foot should not wear slippers without heels or mule-slippers, nor walk barefoot, even about the bedroom.

A frequent change of shoes is better for both feet and shoes, and will help to keep both in good condition. After a long walk the feet should be given a warm bath with soap, and then be rubbed with the rum or cologne. If there is pain in the soles or over the instep, bathing with a weak solution of carbolic acid will allay it. Shoes or slippers with heels of a different height from those used in walking should be donned. When there is acute pain in the insteps it will strengthen and rest the feet after the bath to lie down, turning upon the face so as to stretch the feet out on a pillow, soles upward.

Hot sea-salt baths are very restful and a sovereign remedy for feet inclined to swell from long standing; and great benefit is gained also from dissolving in the foot-bath water two teaspoonfuls of this powder:

Alum.	1 ounce
Rock salt	2 ounces
Borax	2 ounces

After the bath, low sandal-slippers which can be bound about the ankles with ribbons will aid in restoring their symmetry, and a good counter-exercise for the muscles of the feet is to sit so the toes will just touch the floor, and then press upon them with considerable weight.

Rubbing the soles of the feet with a cut lemon will freshen and ease them when fatigued, and in warm weather

this powder applied after the bath will correct the tendency to profuse perspiration or to swelling:

Lycopodium.	3 drachms
Alum.	1 drachm
Tannin	30 grains

A strengthening bath for sensitive, delicate feet is prepared by boiling for twenty minutes in five quarts of water the following herbs:

AROMATIC FOOT-BATH.

Dried mint	1 ounce
Dried sage	1 ounce
Dried Angelica	3 ounces
Juniper berries	½ pound
Rosemary leaves	1 pound

Use at moderate heat, and immerse the feet in it for twenty minutes before going to bed. Repeat for several successive nights.

The more the feet are bathed and rubbed, the better their condition and the shapelier, and the less their tendency to enlarge. A careful pedicuring should follow the hot foot-bath semi-weekly, being just as important as manicuring. All callosities should be gently scraped with a file or pumice-stone; and if the treatment is followed up, and the affected parts are meantime protected by a chamois plaster having a hole in the centre, the feet will soon be relieved from these afflictions, and kept free from them. The nails do not need trimming so frequently as those of the fingers, as their growth is slower. They should be trimmed square across, kept at moderate length, and will improve under the same care given the finger-nails, for which directions will be found in the chapter relating to the hand. Be careful not to destroy the spongy substance below the nails, as this is the special guard to prevent their growing into the quick.

The pressure of a tight shoe or the rubbing of an ill-fitting one tends to cause granulations, or false-nails, to

grow under the corners, an affliction only less painful than ingrowing nails. These can sometimes be scraped away after soaking the feet in hot water, and their return can be prevented by inserting a bit of absorbent cotton under the nail. Obstinate cases can be relieved by treating with a mixture composed of one ounce of chloride of zinc and one drachm each of muriatic and nitric acids; mix thoroughly and apply with a camel's-hair brush. After a few days the granulations will come away. A drop of the lotion, applied daily, will also relieve the pain from an ingrowing nail, the cause of which is not always an ill-fitting shoe. Any slight wound, as paring the nail too closely, or arrested circulation, rendering the toe vulnerable to disease, may be the originating cause, as also habitual neglect. The very slightest wound made in paring the nails or treating a corn should be immediately bathed with an antiseptic lotion; as boracic acid, listerine, or glycerine and carbolic-acid solution in the proportions of two of the former to one of the latter. Thrust a bit of absorbent cotton, wet with one of these lotions, under the ingrowing nail, and scrape or file it down the centre longitudinally till quite thin. Unless long neglect has caused a very aggravated trouble this treatment will promptly arrest it and effect a cure. In the beginning, painting with perchloride of iron will also arrest the trouble.

Corns are merely extreme forms of callosities, and their so-called "roots" exist only in the minds of sufferers and of the charlatans who pretend to "extract" them. Abnormal pressure hardens the scarf-skin into a horny layer, and Nature to protect herself from injury adds layer upon layer beneath it, spreading from a central point of contact, which, pressing upon the nerves of the true skin, causes keenest torture. Of course, removal of the pressure or irritation is the first step in treatment, and in their incipiency that recommended for callosities is all that is required, but ancient corns require more radical measures. Preceding all

applications the feet should be soaked for fifteen or twenty minutes in hot water, preferably made fragrant with tincture of benzoin or toilet vinegar and softened with borax or ammonia. After which, any part of the horny skin that is sufficiently softened should be removed. This can be done most easily by using the pointed tip of a nail-file, working it gently and carefully round the edges of the callous skin; then paint the corn with the following lotion, a highly commended French remedy:

COLLODION CORN-LOTION.

Salicylic acid	1 gramme
Tincture of Cannabis Indica	½ gramme
Alcohol 90%	1 gramme
Ether 65%	2½ grammes
Collodion *élastique*	5 grammes

Apply, with a camel's-hair brush, every night for a fortnight, at the end of which time, after a half-hour's soaking in hot water it is said that the whole corn, including the central point of pressure—the so-called "root," can be picked out with the finger-nails.

It is best to avoid all caustic remedies and to resort to them only in extreme cases. Other means, often successful, and especially for soft corns, which are partially blister and partially callus, are to bind on the affected parts at night either a section of juicy lemon or a clove of garlic, bruised and macerated in vinegar. Several applications will be necessary. If the corns are between the toes they should be isolated with absorbent cotton powdered with tannin or alum, and always it is advisable to protect any irritated spot which is exposed to the rubbing of a shoe with a ring-plaster of amadon or chamois skin. This will greatly facilitate a cure.

A simpler lotion for corns and bunions is this:

Borate of sodium	1 drachm
Fluid extract of Cannabis Indica	1 scruple
Collodion	1 ounce

of the bay tree, three handfuls of bay-leaves, a handful of sweet-flag, with the same quantity of *calamus aromaticus* and dittany of Crete. Boil all these ingredients together for some time, then strain off the liquor, and add two quarts of port wine." Bathe the feet with it night and morning.

Easier perhaps to prepare will be the following:

LEGOUX' LOTION FOR MOIST FEET.

Glycerine	2 ounces
Perchloride of iron	6 ounces
Essence of bergamot	20 drops

Apply to the feet night and morning with a brush; and afterwards dust them over with this powder:

NO. 1. ASTRINGENT POWDER.

Burnt alum	5 grammes
Salicylic acid	2½ grammes
Starch	15 grammes
Violet talcum-powder	50 grammes

Salicylic-acid soap can be used to advantage in the bath, and relief will be afforded by frequent change of both hose and shoes. With bromidrosis this is imperative, and the hose should be washed in a weak solution of boracic acid. It is sometimes a relief to powder the soles of the hose with one of the following powders:

NO. 2. ASTRINGENT POWDER.

Permanganate of potassium	13 grammes
Subnitrate of bismuth	45 grammes
Talcum powder	60 grammes
Salicylate of soda	2 grammes

NO. 3. ASTRINGENT POWDER.

Pulverized alum	5 grammes
Naphtol	5 grammes
Borax	10 grammes
Starch	10 grammes
Salicylic acid	3 grammes
Violet talcum-powder	60 grammes

LAVENDER FOOT-LOTION.

Distilled water.....	1 pint
Bichromate of potassium.....	3½ ounces
Essence of lavender.....	½ drachm

Brush the feet over with this lotion after the bath or when changing the hose; and be careful, in applying any of the lotions, that no space between the toes escapes. In extreme cases it may be necessary to place bits of absorbent cotton wet with a lotion between the toes. The following powder is so pleasant that it can be used not only against excessive or offensive perspiration, but also for simple comfort and pleasure:

ORRIS FOOT-POWDER.

Phenic acid.....	10 grammes
Alcohol	20 grammes
Starch	200 grammes
Florentine orris.....	150 grammes
Essence of violet.....	2 grammes

Dissolve the acid in the alcohol; add the violet essence, then the starch and orris-root. This powder can be used to advantage on perspiring hands, and it is an agreeable glove-powder.

An heroic remedy for chilblains—if not broken—is to put the feet in a basin of hot water; then place the basin over an alcohol lamp. Keep the feet in as long as it is possible to bear the increasing heat; then, on withdrawing them, thrust them in ice-cold water. Wipe gently with a soft linen towel. It is said that two or three such baths will effect a cure.

On the first indication of this troublesome form of suffering, as redness of the toes or heel and intense itching, it is well to rub the feet with warm spirits of rosemary, to which a little turpentine has been added. Afterwards some

absorbent cotton wet with camphor or opodeldoc may be bound upon the affected parts. Camphorated vaseline is also an excellent remedy. The baths already commended are of value, alum and borax being especially indicated. When there is the least predisposition to the trouble, ankle and foot exercises should be taken; exposing the feet to severe cold avoided; as also the habit of hugging the fireside or register, and the use of artificial heat in the bed. The whole effort must be to restore and promote healthful circulation through the feet. In the chapter upon the hand will be found many valuable formulæ for the relief of chilblains, which can also be used upon the feet. Here is a simple remedy easily prepared:

CHILBLAIN LOTION.

Alum, powdered	½ ounce
Spirits of camphor	1 drachm
Cucumber juice	2 ounces

Dissolve the alum in the camphor and add the juice expressed from fresh cucumbers. Pour a little into a saucer when using, as wetting a bit of linen or the fingers from the mouth of the bottle will quickly spoil its contents. This is a precaution which should be observed with all lotions which are not strongly alcoholic, or whose integrity is not preserved by antiseptic ingredients.

For extreme inflammation, threatening to crack, use the following:

CHILBLAIN OINTMENT.

Powdered galls	1 ounce
Resin ointment	3 ounces

The powder is beaten into the ointment till perfectly incorporated. Rub the affected parts with it and wrap the feet in linen bandages.

For the natural perspiration of warm weather this powder is an agreeable absorbent and cooling agent after the bath:

POWDER FOR PERSPIRING FEET.

Powdered alum	1 ounce
Powdered orris-root	2 ounces
Powdered rice	5 ounces

One more soothing and healing unguent, a French remedy, is this:

MAYET'S CHILBLAIN POMADE.

Burnt alum	5 grammes
Iodide of potassium	2 grammes
Laudanum	2 grammes
Rose pomade ("cold-cream" of the pharmacy)	5 grammes
Fresh lard	3 grammes

Mix in a *bain marie*, at gentle heat, adding the alum to the potassium, then stirring both into the lard; then add the laudanum, and lastly the rose pomade.

A flat foot spoils all beauty of the foot and walk, and in extreme cases is almost as bad as acknowledged lameness. Excessive standing may produce flat-foot, and will increase the trouble when it already exists. Strong-soled shoes with a stiff spring in the instep should be worn to counteract it, and foot exercises will strengthen the muscles of the arch and its supports. Walk about the room on tiptoe; then slowly rise upon the toes, keeping the knees stiff; fall slowly to the heel, and repeat ten or a dozen times. Lie down on the floor stretched at full length, with hands lapped under the neck, and stretch the toes with utmost tension from the ankle so that you will feel even the lower-leg muscles pull. This can be advantageously alternated with the abdominal and leg movements, in lying posture, previously described.

Rubbing the legs with olive or almond oil, especially the back parts of the thighs, the knees, and the calves, will favor suppleness of movement and prevent lameness or stiffness after a long tramp or mountain-climbing, or the

more violent exertion of out-of-door games. When playing golf or tennis all the joints may be rubbed with oil to great advantage. The following unguent has been for years employed by the famous European *danseuses* to promote that grace, litheness, and flexibility which is their charm:

CREOLE OIL.

Rose-water	2	ounces
Portugal extract	2	ounces
White brandy	½	pint
Mutton tallow	8	ounces
Olive-oil	6	ounces
Virgin wax	3	ounces
Ambergris	1	grain

Mix the oil, wax, and tallow in a *bain marie;* add the rose-water and extract to the brandy, shake well, then pour in a fine stream into the water-bath, stirring as you pour; add the ambergris last of all. Keep in small jars, closely shut from the air.

Remember that "Any real increase of fitness to an end, in any fabric or organism, is an increase of beauty." Every exercise upon the feet improves their condition and promotes their symmetry and beauty. Given only the preparation of proper dressing for free and natural motion, walking, running, and dancing, and all games which encourage lithe and springy steps, increase the real beauty of the foot, and at the same time develop and round out the muscles of the calf. It is want of use and lack of proper care that incline feet and ankles to grow bulky with flesh, and, from stagnant circulation, to swell.

The more exercise can be taken in the open air the better for both mind and body; for not only is the air purer, insuring more thorough oxygenation of the lungs, but the *inspirations* thus drawn develop the full magic of the twofold meaning of that deeply significant word, lifting body and mind both upon a higher plane.

Nature does for us what nothing else can, and gives to us some of the rarest moments in our lives. In shutting out her influence we are closing the doors in our prison walls. Out under her vast sapphire dome the chains of this world drop away. "Labor and tears, sin, pain, and death have passed away. To exist is to bless; life is happiness. In this sublime pause of things all dissonances have disappeared. It is as though creation were but one vast symphony, glorifying the God of goodness with an inexhaustible wealth of praise and harmony. We question no longer whether it is so or not. We have ourselves become notes in the great concert; and the soul breaks the silence of ecstasy only to vibrate in unison with the eternal joy."

CHAPTER VI.

THE CARE OF THE COMPLEXION.

"'Tis beauty truly blent, whose red and white
Nature's own sweet and cunning hand laid on."

"Her face is like the milky way i' the sky,
A meeting of gentle lights without a name."

"We can fix our eyes on perfection, and make almost everything speed towards it."

THERE is no single beauty which possesses a stronger power of attraction than a clear complexion of delicate tint and texture. It is the natural externalization of inward health and physical purity, and is so great a charm that it quite overcomes any minor irregularities of feature. A vesture of health-glowing, luminous flesh is to the beauty of the human body what Carrara marble and alabaster are to the statue: it conveys the same forceful impression of being Nature's expression of absolute purity in structure and compound.

"Perhaps there is no more fascinating quality than the color of human beings. There is no texture under heaven so transcendently exquisite as healthy human flesh, with its delicate, transparent covering, revealing the ruddy glow beneath, like suffused rose-tints in apple-blossoms. This perfect tissue is capable of revealing in the face every emotion, from the ashen pallor of fear to the rosy flush of delight. This inexpressibly charming suffusion, a brilliant complexion, is finer than faultless features alone."

This beauty, coveted by all women, and the object often of life-long, misdirected effort, is not the reward of indolence, inactivity, or an indoor life; of nervous excitement or unhealthful emotions; of novel-reading mornings in a close room; of over-feeding or under-feeding; of late hours or other dissipations; of any excess, mental, moral, or physical. As well expect the rotten peach to deceive you by the tempting bloom of its skin. It is the reward of hygienic living only: of a well-nourished body, whose every organ is maintained in a state of healthful activity by a wise adjustment of income to outgo; never strained to the danger point of over-exhaustion; never deprived of needful sleep; never exposed to that most insidious of all evils, the stagnating poison of impure air.

There is as great a difference between such a healthful skin, glowing and flushing with life and emotion, and a "make-up" complexion, its sallowness and blemishes masked with cosmetics, as there is between a rare Oriental pearl and a cone of chalk! "Artificial means are as ghastly a substitute for the burnished glow of health as lacquer is for genuine gold."

If women would observe the condition of their skin more closely, they would notice that it always displays a marked sympathy with their physical state; and, therefore, every violation of Nature's laws is indicated in the skin as indisputably as the state of the weather is by the barometer. Any internal derangement affects its hue and texture; any irritation, especially of a nervous or emotional nature, disturbs the whole circulation, and affects most unfavorably the capillary circulation of the face-skin. Continued subjection to morbid emotions, excited by whatsoever cause, is inimical to beauty: a too-vivid imagination, the reading of unhealthful books, anything that encourages or permits unnatural flushing and excitement,—all these things may cause pimples, a red, inflamed nose, and enlarged pores; proving that none can play with fire without being burned.

The reason is obvious: to secure to the face that marvellous mobility which makes the wondrous play of emotions over it the most subtle of fascinations, its whole structure is a microscopic network of nerves, veins, and glands of exquisite delicacy; and morbid excitement creates morbid conditions, obstructing the capillary circulation and enlarging the sebaceous glands. Therefore, serenity of mind, shutting out all opportunity for hasty temper, or morbid, ignoble thoughts, is as absolute a condition for loveliness as obedience to acknowledged hygienic laws.

Such is the sensitiveness of the whole human structure, that, were a girl or woman the perfect embodiment of Titian's Venus, she could not retain such perfection of form and coloring without attention to the sanitary laws of her being. She will quickly destroy her beauty if she heedlessly violates these and allows weak self-indulgence to order her daily life.

Intelligent care can make the skin so transcendently exquisite that no comparison describes it. It is the error of to-day, as the blunder of past ages, to attempt to remedy imperfections of the facial skin by external means, without seeking to discover the cause of the blemish. The medical fraternity are largely to blame for this attitude of the non-professional mind, because they have so generally refused to give their serious attention to "only a skin disease;" failing entirely to recognize that, in manifold cases, the "skin disease" could have guided them like a pointing index-finger to the baffling internal disorder. While, logically, it should be impossible to consider the skin apart from the body, which it covers and with which it is organically so closely joined; yet, were the health of the two, instead of being so intimately connected, entirely dissociated, there is no part of the human body which should receive more thorough study and scientific attention; for upon nothing else does woman's appearance, and, consequently, her happiness, more closely depend.

If a young girl be suffering from a skin disease, don't be put off by the physician's assurance that she will outgrow it; but give her as serious and skillful attention as you would if she had tuberculosis or typhoid fever. In fact, she might better have typhoid fever, as it is a most effectual purifier of the system, and not a whit more dangerous than hundreds of the so-called cosmetics; to which women resort in the vain hope of finding, in these deadly poisons, either a cure or a mask for the impurities of their complexions.

No least measure of real, lasting beauty can be secured for the skin short of its healthfulness; and this condition, far from being secured by means of face-powders, balms, and liquid paints, is seriously menaced, because all the delicate pores are being hermetically sealed, shutting in the impurities which it is their office to expel. It is simply absurd to look upon the skin as merely an enveloping and protective integument for more important internal organs. It yields to none in importance, for any disorder in its so delicate structure reacts upon the whole body, lowering its tone, and inducing a long train of more or less grave troubles.

Never forget that the waste matter of the body is poisonous if retained in the system; and that the unflagging performance of their appointed duty by the bowels, kidneys, skin, and lungs, must be zealously encouraged by every natural means,—by so regulating diet, drink, baths, and breathing that Nature will be unhampered. Very plain speaking, even insistent reiteration and emphasis, are needed on this subject; because there is none about which a great majority of women display greater ignorance, and no pernicious habit more common among them,—often even encouraged because "so convenient, you know,"—than constipation.

Resort to severe cathartics affords only temporary relief, and makes a bad matter worse, the irritated intestines re-

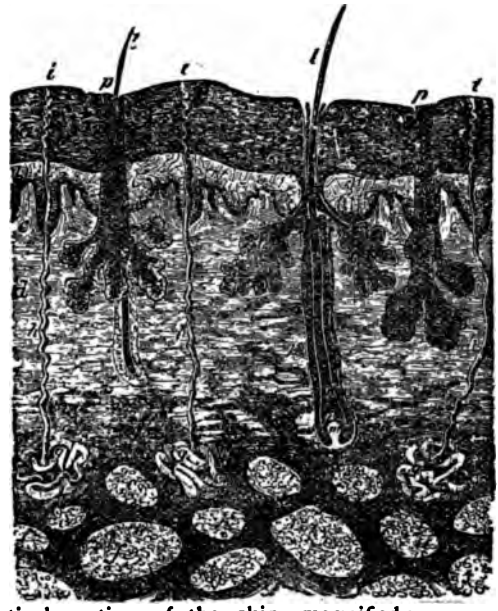
lapsing into greater torpidity than ever. All the medicines in the pharmacopœia will not avail to effect a cure of constipation; it must be overcome by a radical reform from the habits and the diet which produced the condition. Almost all of the common forms of skin disease and facial blemishes are found to be accompanied by this unwholesome state of *choses internes.*

The skin is a thin but strong and elastic substance, divided into two layers (See illustration of structure of the skin). The surface skin, *epidermis*, or *cuticle*, is a cellular structure, devoid of nerves or blood-vessels, very thin, dry, and dense, whose office it is to protect the acutely sensitive true skin, the *derma*, or *corium*, lying beneath it. The epidermis is continually being renewed by growth of cells in the *rete mucosum*, its underside, which adjoins the true skin; and, as these cells approach the surface, they flatten into tiny scales, which are constantly shed,—invisibly, when the skin is in a healthy, normal state; but when blistered by sun or wind peeling in flakes.

The derma is fibro-cellular, composed of minute interlacing bundles of fine threads, in whose meshes are packed, with divine skill and art, cells, nerves, blood- and lymph-vessels, and sudoriparous and sebaceous glands. Where it joins the pigment-layer of the epidermis, it is raised up in tiny points, called papillæ, in which the nerves of touch end. These projections can be most readily observed in the palm of the hand. "Deeper down, at the bottom of the true skin, we meet the collection of oil-containing cells, which in the mass constitute what we know as *fat*, and serve, amongst other purposes, as stored-up nutriment and a protective padding, both against external hurt and cold."

Every particle of the skin is also studded with minute pouches, lined with delicate involutions of the epidermis, which project down into it, like a glove-finger turned inwards. These are the pores of the skin, and are of two kinds; in one class they are about a quarter of an inch long,

and terminate in a coil of their own tubing; these filter off from the blood the perspiration, and are called the sudoriparous glands. It has been calculated that on the average there are 2800 sweat glands to every square inch of the body, equivalent to twenty-eight miles of sewage-tubing for



Vertical section of the skin, magnified; *a*, scarf-skin; *b*, pigment-cells; *c*, papillæ; *d*, true skin; *e*, *f*, fat cells; *g*, sweat-glands; *h*, outlets of sweat-glands; *i*, their openings on the surface of the skin; *k*, hair-follicle; *l*, hairs projecting from the skin; *m*, hair-papilla; *n*, hair-bulb; *o*, root of hair; *p*, openings of oil-glands.

an averaged-sized man. The other pores contain the hair-follicles, and the sebaceous glands open into them. These glands secrete from the blood oily matter which lubricates the superficial cells of the epidermis, preventing their too-rapid drying, and keeping the surface supple. They also assist in maintaining the temperature of the body, delaying

evaporation; and protect it against the absorption of injurious substances.

When the blood-vessels reach the skin, they are minute capillaries, invisible to the naked eye, and are the connecting link between the arteries and the veins. They are so numerous that it is impossible "to direct the point of the finest needle into any spot without puncturing a vessel and drawing blood." Upon their healthful action and unimpeded circulation depend the beautiful flesh tints of the body. The lymphatics of the skin are tiny tubes that carry away the lymph into the interior.

"These two kinds of vessels act after the fashion of irrigating and drainage works. The fluid part of the blood, as it circulates, soaks through the walls of the capillaries, and bathes every cell and fibre, just as the intervening land between the streams is soaked in a water-meadow. A great part of this nourishment is taken up by the elements of the skin, and used for producing new cells, and in the wear and tear of the work of the body; but the used-up or effete material is exchanged back into the blood to be got rid of. The excess not made use of is drained off principally by the lymphatics to be worked up and used again, whilst the waste matters are filtered off" by the glands of the skin and the other organs of elimination.

The nerves, in a marvellous network surrounding and interlacing all these glands and vessels, direct the accurate and healthful performance of all these operations, selecting the nourishment, expelling the waste, and encouraging or delaying the growth of tissues. Therefore, upon their absolute integrity all depends. There is so intimate a sympathy between all the organs of the body through the vast sensitory system of nerves that disorder of one organ leads to mischief elsewhere. That organ which is weakest will be most seriously affected sympathetically, being unable to do extra work; which, immediately one organ is thrown out of commission, all the others endeavor to assume.

The liver performs a most complicated, highly organized function,—chemical processes entrusted to it alone; and when it is disabled through having too much work thrown upon it, as in gormandizing, or when deprived of the mechanical action required to stimulate the flow of its juices —as in a sedentary life—it is not ordinary waste matters which are thrown into the blood, but actually foreign products which no organ knows what to do with. This condition gives rise to a host of evils, affecting most injuriously the skin, whose functions are so seriously disturbed as to excite various inflammations,—itching, pimples, and jaundice. It would be worse than useless to attempt palliative measures to relieve the visible evil, without restoring the internal organ to healthful action; and the concealing them under a mask of paint-like lotions, which increases the obstruction of the pores, may produce very grave kidney troubles.

Remember, that although the surface of the face is comparatively small, yet, partly because of its freer exposure to the air, and partly because of its being the seat of vivid emotions, the face-skin is more active than the skin elsewhere, so that any obstruction of its normal function is keenly felt. Its sympathy with every organ is acute, as evidenced by the unpleasant flushing of the face sometimes after eating, and the sudden burning and throbbing of the nose after drinking a cup of hot tea.

For its perfect health, the skin needs warmth, sunshine, and air; and such a measure of external cleanliness and purity as shall favor its elimination of wastes. A sudden chill acts as a blight upon a delicate skin, and in prolonged exposure to cold, all its operations are checked; the waste matters with which the glands are charged may cause a rash or something worse, and are partly thrown back into the system and incite fever. Profuse sweating is an important factor in the perfection of the skin; and when climatic influences or habits of life are unfavorable to it, those

sleep, when the exhalations through them need to be perfect. Moreover, the skin should not be exposed immediately to wind or sudden change of temperature—as the open air in winter—after this cleansing bath, so night is the most convenient time.

Soap is a valuable tonic for the skin, and its moderate use is beneficial. It should, of course, be thoroughly rinsed from the skin; and a dainty French precaution is to use two face-cloths at a time, putting the soapy one aside, so the perfumed water shall remain clear and pure, and rinsing the face with a fresh one. Fastidious care must be given these cloths, and once or twice a week they should be rinsed in an antiseptic solution. The recommendation so often given to rinse in *cold* water, I consider only less pernicious than to expose the face immediately to air of the same temperature. Instead of the stimulating reaction claimed for it, irritation is often the result. The French complexion-specialists oppose the strongest arguments against the practice, and many of them I have proved to be well founded.

Never lose sight of the fact that the skin of the face is more delicate than that of any other part of the body; that abrupt changes of temperature are more irritating than tonic to it; and that cold—always injurious to a woman—affects most unfavorably the circulation of the face-skin; in extreme cases even obstructing and rupturing its capillary arteries; and it tends to thicken and harden it and make it coarse and rough. The whole aim of the treatment of the complexion should be to avoid irritation. The kind of stimulation and reaction which cold water gives is oversupplied, usually, by emotion.

A dozen drops of tincture of benzoin in the basin of water has a tonic and whitening effect upon the skin, is aromatic and pleasant, and also softens the water; in lieu of it, a sprinkle of any toilet-water adds to the comfort and benefit of the bath. The best material for wash-cloths is the coarse, natural raw-silk, but it is not always easy to find. Whatever

is used should be of medium quality, neither fine nor harsh. For rough, coarse skins, especially with enlarged pores, the friction of a camel's-hair complexion-brush is valuable. Avoid sponges: their absorbent and usually damp condition furnishes a perfect hot-bed for microbes.

Most strenuous are the arguments advanced against the use of soap, claiming that it robs the skin of its natural oil. Of course, caustic and impure soaps are injurious, but no woman who has any respect for her complexion uses such. These people forget that the function of the sebaceous glands is continually to provide this oil, and if that which is exuded upon the surface is left to dry and clog the pores, the ducts are stopped up and the function arrested. Cold water has no affinity for dirt and oil, even with the aid of soap, and tends to contract all the ducts and glands, making it difficult for them to yield their contents. Most of the soil which such a bath removes is found deposited on the wiping-towel. It is the removal of the old oil of the skin and its renewal that are necessary for its health and beauty, and the warm, saponaceous bath is the only thoroughly efficacious means of insuring this.

All the rubbing of the face in bathing and drying should be upward. It is of great advantage to employ the rotary massage movements—as given for rubbing in cold cream —wherever they are applicable. Instead of soap, some of the fragrant saponaceous powders, as almond meal, can be used; and often good results are obtained by changing about from one to the other. Cautions about the choice of soap, together with formulæ for preparing some very choice ones, will be found in the chapter upon the care of the hands, as also some formulæ for saponaceous powders and emollient pastes; and I here give a few others which have been compounded by foreign pharmacists, and for which great cosmetic virtue is claimed. Pistachio meal is, perhaps, no more efficacious than almond, and it is more expensive; but it has been highly extolled in Paris.

HANOVER COSMETIC POWDER.

Sweet almonds, blanched	18	ounces
Dried beans (ripe)	18	ounces
Orris-root	8	ounces
White Castile soap	6	ounces
Spermaceti	1½	ounces
Dried carbonate of soda	1	ounce
Oil of bergamot	6	drachms
Oil of lavender	6	drachms
Oil of lemon	6	drachms

Grind or beat all the dry ingredients to a fine powder; mix thoroughly, then beat in the oils till they are evenly absorbed. Keep in close jars, excluding light and air. This is very cleansing, and whitens and softens the skin.

AMYGDALINE.

Best almond meal	1	pound
Powdered orris-root	¼	pound
White Castile soap (powdered)	½	pound
Oil of bergamot	2	drachms
Oil of bitter almonds	15	drops
Extract of musk	1	drachm

Mix thoroughly, sift, and keep in porcelain jars, in a dry place.

PISTACHIO MEAL.

Pistachio nuts	2	pounds
Orris-root (powdered)	2	pounds
Oil of lemon	7	drachms
Oil of orange-peel	4	drachms
Oil of néroli	1¼	drachms

Blanch the nuts by pouring boiling water over them as in blanching almonds, let them cool and dry, then reduce them to a fine meal; mix well with the orris-root, and then stir in the oils. Keep securely shut from light and air, as the volatile oils take wings to themselves when there is a chance. These mixtures also quickly deteriorate when exposed to dampness, and it is well to mix them in small quantities to ensure freshness.

ALMOND MEAL.

Bitter-almond meal	6 ounces
Orrls-root (powdered)	4 ounces
Wheat flour	4 ounces
White Castile soap	1 ounce
Borax (powdered)	1 ounce
Oil of bergamot	2 drachms
Extract of musk	1 drachm
Oil of bitter almonds	10 drops

Mix powders thoroughly, sift before adding perfumes; stir them in, and sift a second time. Keep in close-shut jars. It is convenient to keep a small quantity of one of these powders in a jar with perforated metal top, so the powder can be shaken upon the hand or cloth when needed for use.

According to the state of the atmosphere, the skin may be dry or moist, rough or smooth. When it is irritated from exposure to wind or dust or sea-air, it is best to use instead of soap one of the foregoing powders or an emollient, saponaceous paste like the following:

HONEY PASTE.

Honey	50 grammes
White Castile soap (powdered)	40 grammes
Gum-benzoin	10 grammes
Storax	10 grammes
Spermaceti (powdered)	30 grammes

Beat all together, in an earthen bowl, till a smooth paste; then dry by exposure to slow heat. Benzoin is a valuable aromatic medicament, with antiseptic properties which act against germs. Its presence in various compounds preserves greases from rancidity. Storax possesses similar properties, and for these is much esteemed in Turkey.

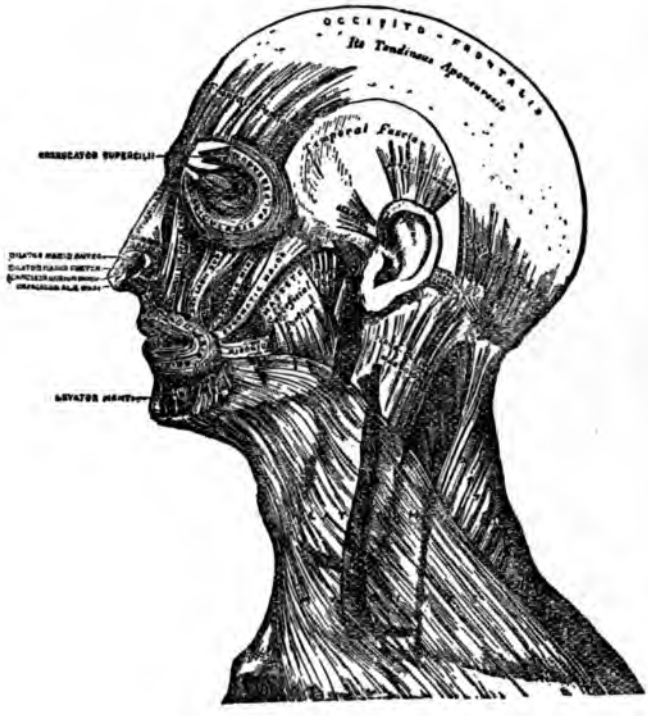
If the face has been "made up" with rouge, balms, and powders, it will be necessary to remove this with almond oil or vaseline before the bath, as water and soap will but fix it the firmer, and its retention during the night is most

injurious to the skin. The night toilet is one of the most important measures towards preserving a beautiful skin, as well as improving a poor one or healing and curing a diseased one. The very common omission of it is one of the causes of unsightly comedones and *acne punctata*, both of which are pre-eminently diseases of uncleanliness, internal and external.

The most common external excitants of all skin disorders are the suppression of the secretions of the sebaceous glands and of the perspiratory fluids which are laden with acids, salts, bile, and organic matter in solution. As these are in their very nature effete matter, they are especially prone to excite inflammation, and offer just the opportunity for mischief for which that alert enemy, the micro-organism, is always waiting, and when the least irritation favors he begins his destructive work. The very acridity of the perspiratory secretions in some constitutions is sufficient to set up the irritation.

The sebaceous secretions naturally diminish with age, very often early in adult life, and require reinforcement and stimulation, as want of this oil deprives the skin of its elasticity and suppleness. Massage is of first importance in preserving facial beauty, having a manifold effect. It not only encourages the suppleness and freshness of the skin tissues, but it provokes the activity of all its functions, contracting the glands and vessels and giving impetus to the circulation; moreover, the mechanical action also develops a certain amount of electricity, which is in itself revivifying to the cutaneous cells, just as it is to enfeebled muscles. To derive the fullest benefit from creams or tonic-lotions they should be massaged into the skin.

The greater part of the muscles of the face are voluntary, under the control of the will and responding to it so facilely that they reflect every emotion as distinctly as a mirror reflects the face. There are twenty-eight muscles about the mouth alone, which pout and laugh and smile, and too often


OCCIPITO - FRONTALIS
Its Tendinous Aponeurosis
Temporal Fascia
CORRUGATOR SUPERCILII

wears between the eyes must be massaged with the first fingers only, moving in a long oval in contrary direction passing each other. These are the hardest lines of all to efface.

Above and below the eyes, rub very lightly with the middle fingers in a vibratory motion outward from the nose to the temples. This strengthens the relaxed muscles of the eyelid. The delicacy of these tissues and of the organ they surround necessitates the utmost care and gentleness in manipulation. If the muscles are extremely relaxed and the upper eyelid flabby and drooping, it would be a great advantage to have several treatments from a skilled masseuse; for nothing can be told quite so well as it can be shown.

The skin of the nose is predisposed to morbid conditions, and prompt to reflect every physical disturbance. All causes of nervous irritation whatsoever, affect it very unfavorably, and, therefore, its skin is especially apt to coarsen. If care be exercised to remove internal excitants, —physical or mental—massage will do much to remedy the evil. Rub gently but with considerable pressure, using the middle fingers and manipulating from the tip along the sides of the bridge to the top. Rotate well at the base, also, and the sides of the nostrils. In all these movements, remember that the surface of the skin moves less under the fingers than it does on the muscles and bones, and their general direction is upward and outward.

To restore the firm contour of the throat and neck, rotate the muscles firmly in a slanting direction from under the chin towards the shoulders, and from the middle of the throat backward and upward towards the ears. The breathing exercises will do much towards rounding out and strengthening the throat-muscles, and especially the forcing the deep, held breath against them for fifteen or twenty seconds. "After rotating face and neck with the fingers, stroke heavily, using the palmar surfaces of the four fingers,

making the passes from the centre of the forehead outward, and back of the ears downward on the veins at the side of the neck; also upward at the sides of the mouth and nose, and from the chin to the ears, to empty the veins, and promote better circulation." Conclude with a few moments of general rotating and soft stroking.

For a dry, harsh, and coarsened skin, there is no other remedy so efficacious as this, which comes to the relief of torpid glands, and, by friction with emollients, aids the natural elimination of poisonous wastes, and the equally natural desquamation of the epidermis. It is also of wonderful advantage in skin diseases, and there is no other treatment which so favors a soft, velvety, fine-textured condition of the skin. The relief of all maladies or blemishes of the skin will be, of course, in proportion to the length of time they have endured; if recent, an almost immediate change will be seen, and the cure should be prompt; but if of long standing, chronic, it will be harder to correct the abnormal condition. Perseverance, however, aiding time and nature, will accomplish wonders.

It is quite superfluous to urge upon women the necessity for giving the most serious consideration to the care of the skin. They are all sufficiently concerned; but the amazing thing is, that the large majority display such an utter want of judgment and discretion upon the subject, and are so readily victimized by every fresh accession to the rapidly swelling ranks of the so-called "complexion-specialists." These people promise to one and all, of every age and condition, youth and beauty as the reward for using their expensive lotions, powders, and creams, or submitting to a so-called "course of treatment." I will not misname their preparations cosmetics, for too often they are positively deleterious; if merely harmless the deluded purchaser has reason to congratulate herself.

"Cosmetic" means beautifying, or that which promotes beauty, and cosmetic arts are all those which tend to

beautify the person, or improve personal appearance. The word has been so misused, so associated with manifold artificial devices, that we have come to speak of all real cosmetics as toilet accessories, which they surely are. But corrosive-sublimate bleaches which eat off the epidermis, leaving the supersensitive derma beneath it exposed to the action of the air; iodine plasters which tear off the cuticle in an even more barbarous fashion; and parboiling the face with medicated steam, are not of these. They have been well named "innovations worthy of a barbaric age; and the harm being wrought daily by these dangerous processes can hardly be overstated."

The preparations used by these charlatans are very inexpensive, and as the prices asked are enormous, the profits of the trade are so alluring that it has drawn to it a horde of audacious humbugs whose fortunes woman's vanity and credulity have built up. The pain resulting from the bleaches depends upon the delicacy of the skin. The intense soreness which follows is sometimes aggravated into virulent blood-poisoning. Occasionally an interesting detail is that the eyebrows and eyelashes all fall out. Many complexions are irretrievably ruined, coming out of the ordeal rough and blotchy.

The most horrible of these processes, widely advertised as the "rejuvenating treatment" and exhibiting the picture of an aged woman, one of whose cheeks has the smoothness of an infant's while the rest of the face is seamed with wrinkles, is the iodine treatment. It is a peeling process of the most agonizing sort. After the raw surface heals—from four to eight days—the complexion is in some cases very fair and lovely, but as expressionless as a wax doll's; and "for months afterward the faintest breath of wind or a touch of the softest cloth in bathing the face causes the most exquisite torture." In a few months after taking this treatment, the sensitive skin commences to show thousands

of criss-cross lines, which gradually deepen, till it resembles the shriveled surface of prematurely plucked fruit.

The abuse of steam and electricity in complexion treatment is also very great; yet, properly used, these have virtues. Only the thoroughly equipped medical electrician, one as skillful in her profession as the well-trained surgeon in his, should be entrusted with the application of electricity. It has the power of stimulating all functional energy, promoting cellular nutrition, quickening the circulation, and energizing nerves and muscles; and permanent cures of *acne* and other skin diseases have been effected by its scientific application. Electrolysis is the surest and safest method for removing superfluous hair, and such serious facial blemishes as warts, moles, wens, and many birth-marks. The process has been so perfected now, that it is attended by no pain, and there is seldom even the slightest scar after the operation.

Such fraudulent methods are employed in trade now, there is such a cunning art of adulteration and imitation in all commodities, that women need to observe the utmost caution in the purchase of all toilet accessories. The science of chemistry, which has made such vast strides in recent years, has become in the hands of the unscrupulous a powerful aid to the most flagrant cheating. There is almost no precious oil, gum, resin, bark, spice, or herb which cannot be chemically imitated at a cheaper rate than the real and pure perfume or drug can be put upon the market. Now, as these imitations seldom have any of the virtues of the real thing, it follows that it is of the utmost importance to buy everything of the kind from a chemist of the highest standing.

Face-creams, toilet-soaps, skin-lotions, and powders offer a tempting field not only for adulteration but for the compounding of the most injurious imitations. Mutton-tallow with possibly a *soupçon* of some cheap oil is put up in jars and foisted upon credulous women as an invaluable skin-

refiner and food; the absence of perfume being extolled as a virtue, which under no circumstances can it be, unless some vile adulteration were used. Such "creams" become rancid in a very short time, in which condition they *are poisonous.* Good perfume would, at least, keep the grease from growing rancid; and if chosen with judgment would in itself add a tonic property to the mixture.

Pure glycerine is, perhaps, the most valuable cosmetic that modern chemistry has placed at the service of woman. It has a wonderfully beautifying effect upon the skin, whitening and softening it and making it very supple; and possesses such a solvent power over all coloring matter, that it is one of the most effective agents for bleaching a sun-browned skin. It must never, of course, be used in a concentrated form, as it abstracts so much water from the skin that it appears to burn. There are many skins with which it does not seem to agree, but probably this is because it is used in too concentrated a form. For the average skin, it should be diluted about one half with some perfumed water; orange-flower, lavender, rose, elder-flower, and violet, are all good. For sensitive or dry skins, a solution of a quarter or a third part of glycerine to the aromatic water will probably have a happy effect.

Glycerine is a valuable ingredient in some of the emulsions and vegetable milks and creams which are so effective in rendering the skin clear, transparent, and delicate. Emulsions are milky-looking lotions which, like milk, hold a certain amount of fat in suspension, and although almost free from alkali, possess as cleansing properties as soap, so their steady use is very beneficial to the skin. Glycerine possesses an antiseptic property which assists in maintaining the integrity of emulsions by preventing separation and decomposition. The proneness of all fats to become rancid makes it important that an antiseptic should always be incorporated with them for cosmetic use. Salicylic acid is also used for this purpose, but it has not the other cosmetic

properties of glycerine. Almond and olive oils and pure, fresh lard are the only fats employed for emulsions.

White vaseline and cocoa-butter agree admirably with some skins, but their effect, like that of glycerine, can only be determined by experiment. The danger with both is, that if there is a predisposition to superfluous hair—hair that ought not to grow—they may increase it, as their action on the hair-follicles is very stimulating. Cocoa-butter has a tendency also to yellow some skins. Vaseline has the valuable quality of never growing rancid; it acts like a charm against slight eruptions, or rash from disturbed circulation, and it is an unequalled lubricator for the knees and other joints when exercising.

Though it is somewhat troublesome to make cold creams and emulsions, because they require delicate and careful manipulation, the satisfaction of knowing what you are using is immense, and it is dainty work which any girl who has time for it will feel well repaid for doing. She will, moreover, find it a great economy to prepare these cosmetics herself; thus often being able to use them much more freely. Fat is the basis of all cold creams, and they are the medium for feeding this to the skin. To give the creams an attractive appearance and a degree of firmness when using oils the majority of formulæ include wax and spermaceti; but many skin-specialists disapprove of these substances, insisting that they are very clogging. Though they seem to agree with some skins, they would better not be used when there is any skin eruption or when the pores are enlarged.

In making all cold creams the manner of manipulation is the same. The fats and oils are put in a *bain-marie*—a double-boiler—and warmed by gentle heat till they can be smoothly mingled or "creamed." Wanting a *bain-marie*, an earthen bowl placed in a basin of boiling water answers every purpose. The difficult part, that which requires most patience and skill, is uniting the other substances, perfumed

waters, aromatic or astringent tinctures, etc., with the fatty base. The perfumed water is poured in very slowly in a fine stream, or even drop by drop, while the mixture is steadily stirred or beaten with a silver spoon or fork. All tinctures or extracts are added last of all, in the same way. Some people use an egg-beater with perfect success.

The following formula is the simplest in a very large collection, and it has been handed down for generations from mother to daughter, through all the branches of aunts and cousins, in a family of Kentucky beauties. It is really the rose-cream of the pharmacy:

KENTUCKY COLD CREAM.

Rose-water	4 ounces
Almond oil	4 ounces
Spermaceti	1 ounce
White wax	1 ounce

Orange-flower, lilac, violet, or elder-flower water can be substituted for the rose-water at pleasure; and the addition of one drachm of tincture of benzoin or a half-drachm of salicylic acid will insure the cream from becoming rancid. It should always be put in small, open-mouthed jars, that can be tightly closed to exclude the air.

A more elaborate formula is this:

ORANGE-FLOWER CREAM.

Oil of sweet almonds	4	ounces
White wax	6	drachms
Spermaceti	6	drachms
Borax	2	drachms
Glycerine	1½	ounces
Orange-flower water	2	ounces
Oil of néroli	15	drops
Oil of bigarade (orange skin)	15	drops
Oil of petit-grain	15	drops

Mix as directed in the first formula; add the glycerine to the orange-flower water, and dissolve the borax in the mixture; then pour it slowly into the blended fats, stirring

continuously; add the perfumed oils last, just before the cream congeals. Don't make the mistake of submitting the fatty substances of the base to a higher temperature than is needed to cream them thoroughly together.

A tonic emollient for strengthening relaxed tissues as well as whitening and softening the skin, to be massaged into face, throat, and neck after the bath, and which can be used to advantage over the whole body, is this:

AROMATIC MASSAGE-EMOLLIENT.

Oil of sweet almonds	3 ounces
Oil of bitter almonds	10 grammes
Balsam of tolu	2 grammes
Benzoin	2 grammes
Essence of lemon	2 drops
Essence of cajeput	2 drops

The resins are powdered and triturated in the oils; keep at a gentle heat for twenty-four hours; then decant from the sediment and add the essential oils. These preparations are all valuable in correcting cutaneous disturbances, and, used for the nightly massage, will, unless internal irritations prevent, make the skin beautifully soft, white, and supple. Specially commended for use when the skin is red, dry, rough, or tanned from exposure to wind and sun, are the two following:

ELDER-FLOWER CREAM.

Almond-oil	3 ounces
White wax	5 drachms
Spermaceti	5 drachms
Lanoline	1 ounce
Oil of bitter almonds	1 drachm
Elder-flower water	3 ounces
Witch hazel	1 ounce

CUCUMBER CREAM.

Almond-oil	4 ounces
Spermaceti	1 ounce
White wax	1 ounce
Cucumber juice	2 ounces

Select cucumbers ripe enough for table use; cut and chop them fine; pound to a paste; and extract the juice by squeezing through a jelly-bag. Perfume with a half-drachm of violet extract. Lettuce and iris creams, made in the same way, are claimed to possess special efficacy in healing a tanned and wind-irritated skin. The lettuce must be scalded with boiling water; let stand a few moments, then pour the water off, and pound the lettuce to a paste in a mortar or an earthen bowl; strain through a cloth. For the iris, extract the juice from the fresh flowers and the whitish parts of their stems, and obtain enough from the deep purple flower-petals to tint the cream violet color. The violet perfume is suited to both of these.

Much of the suffering from exposure to wind and weather and grinding dust, and especially the intense burning from sun and wind on the water, can be avoided by properly protecting the skin from their action. Some emollient cream should be rubbed into the skin, and then a pure hygienic powder dusted over the face quite freely. Incalculable harm is done to the skin by the use of powders in which mineral substances predominate. Lead, arsenic, and mercury are active poisons, the continued use of which jeopardizes even life itself; while bismuth, which is the basis of most "Pearl White" and "*Blanc de Perles*," ultimately ruins the structure of the skin, causing atrophy of its minute vessels, and drying it till it looks like yellow parchment.

A good powder must be cooling, and form a protection to the skin against atmospheric impurities, while not obstructing the action of the glands, and the vegetable powders insure these conditions most completely. The presence of sugar of lead in any cosmetic preparation can be detected by testing it with ammonia, which will turn it black.

A simple and agreeable face-powder can be made at home in the flower season by gathering any fragrant blos-

soms,—roses and violets are, naturally, the favorites,—and burying them in very finely powdered starch—rice or potato is the best—and orris-root, in the proportions of three of starch to one of orris-root. Renew the flowers every twenty-four hours for a week, when the powder should be delightfully perfumed. A talcum powder which is commended as harmless is prepared as follows: Put four ounces of talcum powder in a glass jar, and pour over it eight ounces of distilled vinegar. Let it stand for a fortnight, shaking it daily; then filter it through coarse brown paper, and wash the powder in distilled water—filtering it again—till no taste of the vinegar remains. Mix the powder, together with fifteen grammes of spermaceti finely comminuted, and three grains of carmine, with sufficient violet-water to make a paste. Put in open-mouthed jars and cover with fine linen to protect from dust while it dries. Dr. Vaucaire commends the following:

POUDRE DE RIZ FINE.

Rice flour	6	ounces
Rice starch	6	ounces
Carbonate of magnesia	3	ounces
Boric acid, pulverized	1½	ounces
Orris-root, finely powdered	1¼	drachms
Essence of citron	15	drops
Essence of bergamot	30	drops

Mingle the essences with the carbonate of magnesia, and then triturate all together. Apply the powder over the cream, a little while before going out, and put it on generously. Then the last thing wipe off the superfluous powder with a piece of soft chamois. The skin is thus perfectly protected, and the dust can be wiped off with cream or an emulsion.

The following cream agrees especially with oily skins. It has been pronounced unsurpassed, and has the desirable quality of keeping perfectly for an indefinite period:

CREAM OF POND LILIES.

Orange-flower water, triple	6	ounces
Deodorized alcohol	1½	ounces
Bitter almonds, blanched	1	ounce
White wax	1	drachm
Spermaceti	1	drachm
Oil of benne	1	drachm
Shaving cream	1	drachm
Oil of bergamot	12	drops
Oil of cloves	6	drops
Oil of néroli, bigarade	6	drops
Borax	⅛	ounce

In preparing this observe the directions given for mixing the almond lotion. The shaving cream is a saponaceous paste, found ready prepared at most chemists'. Dissolve the borax in the orange-flower water, slightly warmed; mingle the wax, spermaceti, oil of benne, and shaving cream in a *bain-marie*, at gentle heat; then stir in the perfumed water and almonds, and finish as directed for the next lotion.

All almond preparations have always held high rank in cosmetic arts. In the estimation of our great-grandmothers the simple milk of almonds had great virtue. For this, put the almonds in a sieve and dip it in boiling water; this makes it easy to blanch them. Bruise them in a mortar, and add distilled (or perfumed) water in the proportion of a half-pint to thirty almonds; put in a lump of sugar to prevent the separation of the oil from the water, and beat thoroughly. Strain through a flannel and perfume with a half-drachm of essence.

ALMOND LOTION.

Bitter almonds, blanched	4	ounces
Orange-flower water	12	ounces
Curd soap (any fine toilet-soap)	½	ounce
Oil of bergamot	50	drops
Oil of cannelle	10	drops
Oil of almonds	20	drops
Alcohol 65%	4	ounces

This is a bland lotion very cleansing, whitening, and softening. The soap must be powdered or broken up, and dissolved in the orange-flower water by heating in a *bain-marie;* beat up the almonds in a clean marble mortar, and gradually work in the soap and water; strain through a clean muslin strainer, then return to the mortar and, while stirring, gradually work in the alcohol in which the oils have been previously dissolved.

A simpler but very fine lotion for whitening and cooling the skin and preserving its freshness after the use of creams is

LAIT VIRGINAL.

Tincture of benzoin	½ ounce
Tincture of vanilla	2 drachms
Rose-water, triple	1½ pints

Mix the tinctures, and add the water slowly to prevent precipitation and curdling; it should be a perfect milky-emulsion. Tincture of tolu can be substituted for vanilla, and other aromatic water for rose; but the process of mingling is the same.

CUCUMBER LOTION.

Expressed juice of cucumbers	½ pint
Deodorized alcohol	1½ ounces
Oil of benne	3¼ ounces
Shaving cream	1 drachm
Blanched almonds	1¾ drachms

Prepare as directed for almond lotion. An excellent cosmetic with which to massage face and throat, whitening the skin and also toning relaxed tissues. It agrees with some skins better than any of the creams containing an important base of wax and spermaceti, and can be used to cleanse the skin during the day. Somewhat similar is the following, which is especially efficacious in whitening the throat. It is an English proprietary cosmetic of high repute. It tends to contract enlarged pores, and to stimulate healthful action;

and, indeed, is almost a specific with sensitive skins for redness, roughness, and sunburn.

CUCUMBER MILK.

Oil of sweet almonds	4	ounces
Fresh cucumber juice	10	ounces
Essence of cucumbers	3	ounces
White Castile soap (powdered)	¼	ounce
Tincture of benzoin	⅔	drachm

The juice of the cucumbers is obtained by boiling them in a very little water. Slice them very thin, skin and all, and let them cook slowly till soft and mushy; strain through a fine sieve, and then through a cloth. Make the essence by putting an ounce and a half of the juice into the same quantity of high-proof alcohol. Put the essence with the soap in a large jar or bottle—the larger the better, as the mixture requires much shaking. After a few hours, when the soap is dissolved, add the cucumber juice; shake till thoroughly mixed; then pour out into an earthen bowl and add the oil and benzoin, stirring constantly till you have a creamy liquid. Be sure that the cucumber juice is strong, for it is the natural arsenic in the cucumber which imparts its wonderfully whitening power. Put the emulsion in small bottles; keep tightly corked and in the dark; and always shake before using. It is so quickly absorbed by the skin that it is very pleasant to use.

The following lotion is also adapted to oily skins, and a spoonful of it softens a basin of water and makes a pleasant bath for any one:

EAU DE BEAUTÉ.

Tincture of benzoin	1	ounce
Tincture of musk	2	drachms
Tincture of ambergris	4	drachms
Rectified spirits	5	ounces
Orange-flower water	1¾	pints

Add the tinctures to the spirits, then mingle with the perfumed water. It is cooling and refreshing to the skin,

acting as a tonic; and efficacious in removing tan and freckles. If the perfumes are of the best and purest quality the result will be a milky emulsion.

VINAIGRE À LA VIOLETTE.

Extract of cassie, No. 2 (*Acacia farnesiana*)....	5 ounces
Extract of violet, No. 2.....	5 ounces
Extract of rose, No. 2.....	5 ounces
Tincture of orris-root.....	5 ounces
White-wine vinegar.....	1 pint

This must digest for ten days, and then be filtered through porous paper. Don't confound the cassie—a floral odor—with cassia, which is extracted from the bark of *cinnamon cassia*. A teaspoonful in a basin of water makes a refreshing sponge-bath on a hot day; it is always delightful in the warm bath, and will often relieve the pain of throbbing temples. It is especially adapted to that condition of skin resulting from late hours in close, hot rooms, and from humid weather, being both tonic and astringent. *Eau de Beauté* and *Lait Virginal*, and the famous perfumed water which follows, have similar virtues, and are severally adapted to different skins.

The celebrated Hungary water, by means of which, centuries ago, the beautiful Queen Elizabeth of Hungary was reputed to have retained her marvellous complexion to an advanced age, owes its peculiar virtues to rosemary; and could it do all that is claimed for it, it would deserve the name of bloom of youth:

QUEEN ELIZABETH'S HUNGARY WATER.

Oil of rosemary.....	½ ounce
Oil of lavender (Mitcham).....	2 drachms
Oil of petit-grain.....	30 drops
Tincture of tolu.....	4 drachms
Orange-flower water.....	½ pint
Spirits of wine (rectified).....	1½ pints

This is tonic and astringent, strengthening relaxed muscles, and therefore something of a wrinkle eradicator. It

can be applied directly to the skin, or be used in the bath-water. So famous a lotion has of course had many imitations, and another formula which Cooley gives as the genuine Continental one is much more complicated, but contains fewer ingredients:

EAU DE LA REINE D'HONGRIE.

Rosemary-tops (in blossom)	2 pounds
Sage (fresh)	¼ pound
Rectified spirit	3 quarts
Water	1 quart

Digest for ten days, throw the whole into a still, add a pound and a half of common salt, and draw off six pints. To the distillate add of

Jamaica ginger (bruised)	1 ounce

Digest a few days, and either decant or filter. It is esteemed on the Continent as both a skin and hair tonic. Askinson's formula for the magic lotion is this:

HUNGARIAN WATER.

Extract of orange flowers	1 pint
Extract of roses (triple)	1 pint
Oil of lemon	1 ounce
Oil of melissa	1 ounce
Oil of peppermint	30 minims
Oil of rosemary	2 ounces
Spirits of wine (rectified)	5 quarts

The substances should digest in the spirits for two weeks, being agitated daily; then filter if not clear.

The protection of the skin from the impurities of the air, especially when exposed to the dust and dirt of travel, or the chaff and microbe-laden wind of city streets is really of great importance; for these are sources of infection and danger, especially to very delicate, over-thin skins and those which flush readily. The habitual use of cold water, and the pernicious habit of sousing the face with it imme-

diately after exposure to heat and drying winds, sets up an irritation which the ever-ready microbe seizes; and many cutaneous affections have no other origin than this. Thus, the dust; active poisons, as minerals and rancid fats, with which women voluntarily coat their skins; improperly laundered towels and wash-cloths, and foul sponges; and impure or hard water, are the external evils against which eternal vigilance must be exercised. The careless dosing with certain drugs, as iodine and bromide of potassium, is an internal excitant of *acna vulgaris.*

Spasmodic attention is of no value. Don't expect that the careful night toilet attended to every other night, or just when you feel like it, will result in any special good. Every time it is omitted there is danger from the resulting obstruction of the pores, and irregularity of diet or baths, or want of exercise, will undo the good accomplished. Like seeks like, and evils have wondrous affinity for each other. The poisonous wastes, clogging earthy substances, co-operate actively with external irritants, and create that blight of so many complexions, comedones and acne, commonly called "worms." They are accumulations of oily secretions from the ducts of the sebaceous glands, which from some of the unfavorable influences already enumerated are not expelled. The chemical action of the air, and often of some powder or lotion applied to the face, turns the matter at the minute opening black. "When examined under the microscope, each of these little masses, technically called comedo, is found to contain a pair, and often a numerous progeny, of minute parasitic worms. These cause no annoyance or irritation unless they become very numerous and active, in which case an ordinary pimple [*acne punctata*] results."

Any attempt to expel them by force irritates and often bruises the skin, and they are sure to return unless the cause is removed. The healthful action of all internal excretory organs must be attended to, and that of the skin

ensured by cleanliness. For this condition the complexion brush is needed and hot water and soap or emollient paste to relax the pores and encourage them to yield their clogging contents; and the operation should be assisted by cold creams of a special sort, containing no spermaceti or white wax, but only penetrating oils which will dissolve the hardened secretions, and at the same time strengthen and feed the skin. Pure, sweet cream is sometimes the best thing that can be used, and milk baths—one part milk to one and a half of water—are efficacious.

A French physician and skin-specialist, Mme. Pokitonoff, considers almond-oil, lanoline, vaseline, and pure fresh lard the best fats to use upon the face-skin, and for *acne* and comedones she commends the following:

POKITONOFF ACNE OINTMENT.

Ergotine	3 grammes
Oxide of zinc	7 grammes
Vaseline	30 grammes

COMEDONE OINTMENT.

Resorcin (dissolved in alcohol)	5 grammes
Lard (pure and fresh)	100 grammes

or this:

Salicylic acid	50 grammes
Lard or vaseline	50 grammes

The substances are thoroughly blended by stirring or beating; and the ointment is rubbed into the skin like any cream. The following is prepared in the same way:

ACNE OINTMENT.

Naphtol (Beta)	2 grammes
Sulphur (precip.)	20 grammes
Potash soap	20 grammes

Potash soap is the "green soap" of the pharmacist, and is often used in chronic cases of comedones and *acne*. The face can even be frictioned with it alone. If its action is

too severe, the alkali can be counteracted by bathing the skin with toilet vinegar. Particularly obstinate comedones have sometimes to be removed by pressing a watch-key down over them, but this would better be done after steaming has relaxed the pores.

The difference in constitutions is so great, and the exciting causes of pimples vary so much, that a specific for one person is sometimes valueless for another. Other excellent remedies are:

ACNE LOTION.

Precipitate of sulphur	1 drachm
Tincture of camphor	1 drachm
Glycerine	1 drachm
Rose-water	4 ounces

Or this:

Pure brandy	2 ounces
Cologne	1 ounce
Liquor of potassa	½ ounce

And for

COMEDONES.

Subcarbonate of soda	36 grains
Distilled water	8 ounces
Essence of roses	6 drops

Apply frequently with absorbent cotton or linen.

Steaming the face is often the quickest method for encouraging the pores to yield their hardened contents. Face-steamers can be had for this purpose, but wanting one, a chafing-dish over an alcohol burner answers just as well; or a large bowl of boiling water can be made to accomplish the work. Bend the face over it so the palms of the hands can support the head, and envelop head and basin in a light shawl or a large Turkish towel. One of the foregoing ointments should be rubbed into the skin before steaming, which should continue till free perspiration is induced. Wipe the face gently with a soft linen cloth so as to remove all exuded matter, and then rub in the following:

LANOLINE CREAM.

Lanoline	1 ounce
Sweet-almond oil	½ ounce
Boric acid	40 drops
Tincture of benzoin	10 drops

A sulphur steam-bath is sometimes a wonderfully prompt remedy against skin affections. It can be given in the same way, by using a copper vessel for the boiling water, and stretching across it a strip of tin wide enough to hold a hot saucer containing the sulphur or some sulphume.

An English physician gives the following formula for a lotion to be used for *acne* after bathing with potash soap:

ENGLISH ACNE LOTION.

Sulphur precipitate	4 drachms
Camphor gum	20 grains
Acacia gum	40 grains
Lime-water	4 ounces
Rose-water	4 ounces

For *acne* and other pimples this cream also is commended:

FOSSATI CREAM.

Lanoline	2½ ounces
Almond-oil	2½ ounces
Sulphur precipitate	2½ ounces
Oxide of zinc	1¼ ounces
Violet extract	2 drachms

Rub the oil gradually into the sulphur and zinc till a paste is formed; then add the lanoline and perfume. Keep in close-shut porcelain jars. Apply at night to each pimple with a tiny camel's-hair paint-brush, and wipe away in the morning with a bit of soft linen.

The most famous and reliable lotion known to pharmacists for the cure of obstinate eruptions and sores, glandular swellings and minor indurations, and which whitens the skin and bleaches freckles, is the simple mercurial lotion made as follows: Dissolve by agitation ten grains of corro-

sive sublimate in a half-pint each of distilled water and pure rose-water. If distilled water is not used, add six grains of pure sal-ammoniac to prevent decomposition. When using it, a small quantity should be poured from the bottle into a clean saucer or glass; apply with a bit of linen; and never wet it at the mouth of the bottle, as the solution will quickly decompose if this common practice be followed. Contact with metals or anything of a saline nature will also spoil it; and as it is an active poison, the bottle should be so marked in red ink, and placed out of the reach of children. No fear should be felt towards its external use, as it is not only absolutely harmless, but one of the oldest and best known cosmetics. The addition of an ounce of glycerine—omitting the same quantity of distilled water—makes it very efficacious and healing in all cases of itching or irritation. The sublimate should be in pure crystals.

Next in importance to this, and for some purposes even more efficacious, is Gowland's Lotion, for which I give Cooley's formula, "sanctioned by the medical profession":

GOWLAND'S LOTION.

Jordan almonds (blanched)	1 ounce
Bitter almonds	3 drachms
Distilled water	1 pint
Bichloride of mercury (coarse powder)	15 grains

With half the water make the almonds into an emulsion as directed for simple almond-milk; strain it, and gradually add the mercury previously dissolved in the other half of the water. When finished, add enough water—some will have wasted—to make it measure exactly one pint. Exercise the same precautions in using it as directed for the foregoing, and take care that nothing alkaline or metallic touches the liquid. It equals the glycerinated solution in its cosmetic effects, and the long-continued use of either will do much toward effacing smallpox marks. They are also the only effective remedies against obstinate, all-the-year-round, freckles, often called "cold freckles." The last

can be used once or twice a day, as night and morning, after the bath. Leave it to dry in for a few moments, then wipe off with a soft cloth.

Most of the "beauty washes" with which ignorant and dishonest pretenders claim to accomplish such marvellous transformations, are clumsy and unskillful imitations of these celebrated cosmetics. Being too often made from impure substances, and containing a dangerous proportion of the corrosive sublimate,—bichloride of mercury,—they decompose rapidly, and are utterly unfit for use. No change can be made in the formulæ, no addition of other articles or substitution, without causing decomposition of the active ingredients; except that orange-flower water may be substituted for the rose-water, or the perfumed water may be replaced with like quantity of distilled water; and sometimes the sublimate is dissolved in two to three drachms of rectified spirit before adding the water, which adds nothing to the virtue of the lotion but is convenient.

Massage is also a valuable agent in eradicating freckles and the predisposition to them. Everything that promotes the activity of the skin tends to remove its blemishes, which are all manifestations of abnormal conditions. The "Medical Record" commends this:

FRECKLE LOTION.

Lactic acid	4 ounces
Glycerine	2 ounces
Rose-water	1 ounce

Apply several times daily with a soft linen cloth, pouring a small quantity of the lotion, as needed, into a saucer. This is a dainty and proper precaution to observe with all lotions and perfumes which cannot be poured from a drop-stopper,—a convenient modern appliance with which every liquid toilet-preparation should be supplied.

The elder-flower cream can be used to advantage with this or other freckle lotions of the same sort—containing acids—whose nature is to burn the skin. Different skins

are differently affected ; and if the redness and irritation are painful, the lotion should be used more infrequently and the burning allayed with the cream.

GLYCERINATED LEMON LOTION.

Citric acid (lemon)	3 drachms
Hot water	11 ounces
Borax	2 drachms
Red rose-petals	1 ounce
Glycerine	1 ounce

Dissolve the acid and borax in the water; infuse the petals for an hour; strain through a jelly-bag ; after twenty-four hours, decant the clear portion, and add the glycerine.

FRECKLE SPECIFIC.

Distilled water	6 ounces
Glycerine	2 ounces
Dextrine	½ ounce
Oxide of zinc	160 grains
Oxychloride of bismuth	60 grains
Corrosive sublimate	6 grains

A very powerful application to be made and used with utmost care. Dissolve the last three substances in the water, add the dextrine to the glycerine; after agitation mingle the two mixtures and shake thoroughly but not violently. Observe precautions given with other mercury solutions. This is to be applied sparingly to affected parts with a camel's-hair brush.

Two French remedies, about which I personally know nothing, but which have the advantage of being commended as preventive, are these : Beat the white of an egg to a froth and mix with an equal proportion of sweet-almond oil. Rub upon the face at night; and after the morning bath apply this lotion:

EAU ANTI-ÉPHÉLIDE.

Rose-water	100 grammes
Borax	5 grammes
Spirits of camphor	10 grammes
Tincture of benzoin	5 grammes

The latter can be used both night and morning, omitting the beaten egg and oil, which it is said to equal in efficacy. The following is said to be excellent for old and obstinate discolorations,—freckles, and also the ugly marks left by linen collars on the neck (for which purpose also the Cucumber Milk is effective):

HARDY'S FRECKLE LOTION.

Bichloride of mercury	4 grammes
Sulphate of zinc	8 grammes
Spirits of camphor	10 grammes
Distilled water	300 grammes

For use, dilute with three parts of water, and apply with a bit of linen. It is not so strong as the "Freckle Specific," but equal care must be exercised in its use.

LAVENDER FRECKLE LOTION.

Distilled water	1 pint
Lavender-water, triple	2 drachms
Sal-ammoniac (powdered)	1 drachm
Hydrochloric acid	½ drachm

Apply night and morning with a linen cloth; or alternate its use with one of the following ointments applied after the cleansing night-bath:

FRECKLE POMADE.

Citrine ointment	1 drachm
Oil of almonds	1 drachm
Spermaceti ointment	6 drachms
Otto of roses	3 drops

Beat thoroughly, in a Wedgewood-ware mortar, using a *wooden* or *bone* spoon or blade.

ELDER-FLOWER POMADE.

Sulphate of zinc (levigated)	20 grains
Elder-flower ointment	1 ounce

"These ointments are recommended for either summer-

freckles or cold-freckles, a little being applied night and morning, preceded by soap-and-water."

According to the present theory, it is not the heat of the sun which develops freckles and tans and burns the skin, but the light from its electrical rays (commonly called actinic, which merely signifies chemical); and it is the difference in the chemical constituents of the pigment in the skin which causes these rays to affect some persons so much more seriously than others. Neither blue veils nor white ones are the least protection, as the electric rays pass directly through them. Red rejects these blue and violet rays, therefore a reddish-brown veil interposes an obstacle; and, of course, a red one is protective, but has only that recommendation. Even fashion can never make a red veil or red gloves other than hideous. The veil habit is a very bad one for the eyes, and if women understood their own advantage and welfare, the manufacturers of spotted-net veiling would go out of business, for not a yard of it would be sold. When a veil is really needed for protection, it should be of gauze or chiffon.

If the skin is well rubbed with cold cream and powdered, it will come through the ordeal of a yachting-trip or a fishing-excursion without serious burning. When, however, this precaution has not been taken, the pain from a first exposure, in the process of a summer tanning, can be greatly alleviated by bathing the face for ten or fifteen minutes with water as hot as can be borne; follow this with gentle massage, rubbing in sweet cream, almond-milk, vaseline, or any cold cream. The orange-flower, cucumber, or elder-flower are especially adapted to this condition. This will reduce the inflammation, but will not bleach the skin; and if you have no ambition to become as brown as an Indian, you must follow the massaging with steaming as already directed. After gentle wiping, apply Gowland's Lotion or one of the milder freckle lotions,—the glycinerated lemon, or that with lactic acid.

Simple home remedies for tanning—and also for freckles—are to wash the face in fresh buttermilk or in this horseradish lotion: Scrape a teaspoonful of horseradish into a cup of sour milk; let it stand six hours before using. Apply two or three times a day. Another excellent preparation which, besides preventing and removing freckles and other discolorations, whitens, softens, and refines the skin, and will prevent chapping and roughness, is this:

HONEY BALSAM.

Pure honey	4 ounces
Glycerine	1 ounce
Rectified spirits	1 ounce
Citric acid (pure)	3 drachms
Essence of ambergris	6 drops

Mix the first two by gentle heat; dissolve the acid in the spirits, and add the essence; when the first mixture is cold, put the two together and agitate till mingled. This is extremely emollient for the hands as well as face.

An even more protective make-up than that already advised is a cream which has great vogue in Oriental harems as a beautifier, and purifies the skin while preserving it. The harem beauties make it the foundation of an elaborate make-up:

SULTANA CREAM.

Sweet-almond oil	4 ounces
White wax melted	320 grains
Spermaceti	320 grains
Benzoin (finely powdered)	100 grains
Tincture of ambergris	60 grains
Rice feculæ (pulverized)	320 grains
Pure carmine	15 grains

Blend the fats in a *bain-marie* as previously directed for all creams; add the benzoin while they are heating; the rice and carmine while cooling; and tincture last of all. Spread it on the face and throat, gently and carefully, rubbing it

into the skin, and avoid its getting into the eyebrows or close to the eyes. Powder with any fine flesh-colored powder or *veloutine*, applying freely with a puff, and after a little while wipe off with a bit of chamois. This masks as effectually as a plaster of pastes and paints all slight imperfections of the skin, without having the repulsively artificial look which they give. By artificial light it is said to be imperceptible, and to give the appearance of a superb complexion.

A powder of magic property, handed down in the "Marquise de Fontenoy's" family from an ancestress who was a celebrated beauty at the court of Louis XIV., is prepared in this manner:

POUDRE D'AMOUR.

"Scrape six juicy, raw carrots and half a pink beet-root, squeeze the juice out through a muslin bag, and put it aside. Take three ounces finely powdered corn-starch, mix with the carrot and beet juice, expose it to the sun, and stir occasionally until the fluid evaporates, leaving the tinted starch dry. Sift through a piece of silk gauze and add:

Powdered Venetian talc.....	300 grains
Powdered lycopodium.....	300 grains
Powdered bergamot.....	45 grains
Powdered bismuth subnitrate.....	7 grains

"Sift again, and keep in a sandal-wood box."

For an evening toilet, spread the Sultana Cream over face, neck, and arms, then powder with the *Poudre d'Amour*, wiping off the superfluous powder with antiseptic gauze. In many French beauty-books the use of this gauze or absorbent cotton is recommended for all toilet purposes, —the applying of lotions and powders, and wiping-off of creams; and great stress is laid upon dainty nicety and absolute purity of everything used about the toilet. Antiseptic lotions are freely used in cleansing things.

A very good face-powder is made of equal parts of precipitated carbonate of zinc and French chalk, and it can be colored with a few grains of carmine or with the vegetable juice, like *Poudre d'Amour*. In mixing any of these powders, two or three siftings through silk bolting-cloth improves their quality. Here is one more which is pronounced very fine by those who have used it:

RONDELETIA FACE-POWDER.

Corn-starch or rice powder	4 ounces
Oxide of zinc	1 ounce
Drop chalk	2 ounces
White clay (kaolin)	2 ounces
Orris-root	2 ounces
White French chalk	1 ounce
Carmine	15 grains
Oil of lavender	30 drops
Oil of cloves	30 drops
Oil of cedrat	15 drops
Oil of rose geranium	15 drops

The dry substances must be finely powdered and sifted through silk bolting-cloth; mix the oils together, and add them gradually to the powder, tossing it up with an ivory or wooden spoon. Shut tight in jar or bottle for two or three days, then sift again, after which it is ready for use.

Doctor Vaucaire gives the formula which follows, with the endorsement that it entirely replaces the so-much-vaunted injurious preparations, and will agree with the most delicate skins:

VELOUTINE FINE.

Venetian talcum-powder	20 grammes
Lycopodium powder	20 grammes
Powdered tannin	5 grammes
Boric acid	5 grammes
Essence de patchouly	10 drops

And still another is this:

HYGIENIC POWDER.

Farina starch	50 grammes
Powdered talcum	20 grammes
Powdered lycopodium	20 grammes
Salol or boric acid	10 grammes
Essence of violets	20 drops

The starch is to be stained with carrot and beet juices as directed for *Poudre d'Amour*, and the process of mixing for both is as previously described.

It is not by staying indoors and avoiding exposure to sun and air that a good complexion can be preserved or obtained. The menace of close, impure air, alone, to say nothing of want of exercise, and consequent torpidity of natural functions involved in such foolish protection, is a grave one which has already been fully emphasized. Fresh air is the life of the skin as it is of the body, and it cannot have too much of it. Try to forget that misleading old adage, "Beauty is but skin deep." It comes from the very marrow of the bones; and anything that lowers the health of any part threatens the integrity and perfection of the enveloping tissue. There must be "a sound bony system" or there can be no beautiful skin; and the beneficial effect of all the beautifying compounds here given depends upon a radical change from the habits of life which have produced the imperfections.

Often several generations of incorrect living on salt fish and pork, smoked meats, fried foods, soggy hot breads of fine white flour, and greasy, tough pastry, with insufficient vegetables and fruits, have gone into the building of the disordered liver, dyspeptic stomach, and generally torpid condition, which ultimate in freckles, moth-patches, liver spots, and *acne* and other eruptions. Therefore, it must not be expected that a cure can be effected immediately, or with anything short of regular, careful, and persistent adherence to hygienic rules of living. Oftener than not, as I have pointed out, all skin affections are the result of long-

continued violation of these laws, and new blood and new tissues must be formed, and the organs trained and stimulated to normal activity, before a decided improvement will be seen. Unflagging attention to cleanliness, sufficient daily exercise to induce perspiration, and fresh air, outside and inside, will do more to hasten it than all else.

For the common sort of pimples which often trouble young girls, and others of nervous, excitable temperament who suffer from disturbed circulation, this ointment is usually a specific:

Bi-carbonate of soda	36 grains
Glycerine	1 drachm
Spermaceti ointment	1 ounce

Rub on the affected parts; let it remain fifteen minutes, then wipe off all but a slight film. At the same time take internally:

R. Compound extract of colocynth	30 grains
Sulphate of iron	25 grains
Extract of nux vomica	10 grains

To be mixed in 25 pills; dose, one pill, night and morning.

Scaly eruptions call for iodide of potassium internally; and ioduretted or sulphuretted lotions and baths are the external remedies.

GLYCERINATED IODIDE LOTION.

Iodide of potassium	2 drachms
Distilled water	1 pint
Glycerine (pure)	1 ounce

Dissolve the iodide in the water, then add the glycerine. Apply with antiseptic gauze or fine linen. It is an excellent skin-cosmetic, used like Gowland's Lotion, and especially beneficial for persons of scrofulous or scorbutic taint; for all eruptions and swellings, or indurations arising from that

cause; or the drying effects of the wind. It is also pronounced a valuable hair-lotion. A more active preparation for severe cases and enlarged glands is the

COMPOUND LOTION OF IODINE.

Iodide of potassium	30 grains
Iodine	15 grains
Distilled or soft water	1 pint

Dissolve by agitation in an ounce of the water first, then add the remainder.

Borax and glycerine are often efficacious in mild cases of scaly eruptions and for the rash that summer heat brings out on the thighs, abdomen, and neck, or wherever the pressure of clothing irritates and chafes. This is the best preparation:

FOR SUMMER RASH.

Elder-flower water	7 ounces
Glycerine	1 ounce
Borax	½ drachm

Apply night and morning, and during the day, if irritation requires.

For all eruptive conditions and symptoms there is sometimes a stage when a course of sarsaparilla will aid the cure; but diet and exercise are of utmost importance,—nourishing food, without stimulating condiments. Ignoring this necessity, internal medicines will but aggravate the symptoms. Don't believe any one who tells you that driving a humor out on the skin is doing good. That should not be the outlet. Iodide of lime in small doses for a few days will cure a tendency to the recurrence of boils, and the application of a salve made of one part of red oxide of mercury to 100 parts of lanoline is said to avert them. The diet should be sparing; fruit freely eaten, and an abundance of pure water in which a little fresh lemon-juice has been mixed drunk an hour before meals, and between them. The hot-water treatment is also beneficial; and, in fact, if made habitual, would do much to keep people in health. A mild

laxative also is indicated, and the fig-and-senna paste—see Chapter III.—is an excellent one. A laxative powder prescribed by the famous French physician, the late Dr. Dujardin-Beaumetz, is this:

LAXATIVE POWDER.

Cream of tartar	11	grains
Powdered senna-pods	2	drachms
Powdered aniseed	1	drachm
Powdered fennel	1	drachm
Powdered liquorice-root	2½	drachms
Washed sulphur	2	drachms
Sugar	1	ounce

Mix thoroughly, and take a dessert-spoonful at night.

Occasional doses, also, of mild saline aperients are efficient aids to Nature's work in the treatment of all eruptive troubles. Mineral waters, or a course of "salts,"—Epsom, Rochelle, and Carlsbad,—and cream of tartar or phosphate of soda, or sulphur combined with cream of tartar, are used for the purpose. But extreme caution should be observed in applying externally anything of a saline nature to a disordered skin. In nine cases out of ten sea-baths greatly aggravate the trouble, yet they are often recommended!

Some obstinate cutaneous affections resent the application of water, but yield to a course of hot milk baths. Let the milk scald, but not boil, as that robs it of its healing virtue; use it as hot as it can be borne, applying freely with antiseptic gauze or immaculately clean, fine linen, and let the milk dry on. Indurated red blotches, and even chronic eczema, have been cured after a few months of this treatment; of course, attended by every care in regulating the daily life that could aid in establishing the general health.

With reference to nervous excitement, women must remember that hurry and worry are two baneful forms to which they are most prone. They are poisons. I have shown how disastrously they affect internal organs; and

they are the constant irritants which give to some skin-troubles their obstinate character.

Any disorder of the nose is usually both painful and mortifying. Poor circulation, disturbances of the alimentary canal, inveterate constipation, and constrictions of any sort whatsoever, are the frequent excitants of the trouble; and outward applications can have no effect till these are corrected. An irritated, contorted, suffering great toe may cause distended veins in the nose; habitual cold feet are provocative; and it is the penalty for abuse of alcoholic stimulants and indulgence in too rich foods. And that very common derangement, acidity of the stomach, finds ready sympathy in the nose, which causes a responsive but very unbecoming throb. Continued drinking of hot water may relieve this trouble, but when it is acute, dissolve a half-teaspoonful of sulphate of soda in a half-tumbler of hot water and drink an hour before breakfast; repeat the dose in thirty minutes.

Spearmint tea, too, has sovereign virtue as a remedy for disorders of digestion, and with some constitutions acts as a specific. When this inflamed condition with dilated capillaries, *acne rosacea*,—called by the French *la couperose*,—is just beginning, Dr. Vigier commends the following lotion:

Sulphate of potassium	1 gramme
Tincture of benzoin	1 gramme
Rose-water	50 grammes
Distilled water	50 grammes

Bathe the affected parts frequently through the day, and massage with cold cream or vaseline at night. *Never* bathe with cold water.

For the chronic state of *couperose*, M. André-Valdès advises, after bathing in tepid water, friction with this pomade:

Precipitate of sulphur	8 grammes
Pure glycerine	8 grammes
Precipitated chalk	8 grammes
Cherry-laurel water	8 grammes
Alcohol (rectified)	8 grammes

A mask of gutta-percha is advised to be worn at night; a rigorously abstemious diet is insisted upon; and alkaline waters and herb drinks commended.

For dilated veins, Mme. Pokitonoff prescribes the following lotion:

GLYCERINATED MALLOWS.

Eau de guimauve (mallows).....	200 grammes
Benzoate of soda.....	5 grammes
Glycerine	20 grammes
Alcohol.	10 grammes

And for enlargement and redness of the nose this is pronounced excellent:

FOR RED NOSE.

Muriate of ammonia.....	1 drachm
Tannic acid.....	½ drachm
Glycerine.	2 ounces
Rose-water	3 ounces

Dissolve the muriate and acid in the glycerine, then add the water. Saturate a piece of absorbent cotton with the lotion, and bind on the nose nightly until a cure results. Bathe with the mallows lotion as often during the day as convenient, and bind on at night in the same manner.

With cleanliness and nourishment, and a measure of respect for the muscles of the face and its delicate and so sensitive nerves that will control needless and unlovely grimacing, the evil day when wrinkles glare mockingly at a woman from her mirror can be almost indefinitely postponed. If premature ones have asserted themselves the treatment already outlined will do much to eradicate them: the massage with some emollient being the most efficacious means. Yet there are other specifics which apply directly to these terrors of woman.

A French *grande dame* who declares wrinkles are an appendage of the negligent, to whom they should be left,

recommends the "water of youth" as a preventive till an advanced age. It is made by boiling three ounces of pearl barley in a pint of water till the gluten is extracted; strain, and add twenty-five drops of tincture of benzoin. Wash with the barley-water night and morning. If wrinkles have already begun to line the face the barley-water can be ably assisted with this:

POMADE OF HEBE.

Juice of lily-bulbs	60 grammes
Honey	15 grammes
White wax	30 grammes
Rose-water	12 grammes

Melt the wax and honey together; add the juice to the rose-water, and stir gradually into the wax. Apply a little every other night.

A famous French lotion which is credited with great virtue in removing wrinkles by strengthening and contracting the relaxed tissues is this:

EAU DE CIRCE.

Powdered incense (Olibanum)	32 grains
Powdered benzoin	32 grains
Powdered gum arabic	32 grains
Powdered sweet almonds	48 grains
Ground cloves	16 grains
Ground nutmeg	16 grains
Alcohol (deodorized)	8 ounces

Dissolve the first three in the alcohol; then add the spices and almond flour. Let it stand for forty-eight hours, agitating several times; add an ounce and a half of pure rose-water, then filter through porous paper. Wet the face with it frequently, and if need be, for obstinate wrinkles or extreme flabbiness, bind on compresses wet in the lotion.

Still another, commended for those premature wrinkles

which sickness or sorrow stamp upon some faces, is the following:

FOR PREMATURE WRINKLES.

Alum	60 grains
Almond milk (thick)	1½ ounces
Rose-water	6 ounces

Dissolve the alum in the rose-water, then pour gently into the almond milk with constant agitation.

A *moyen-âge* pomade pronounced excellent is similar to Hebe's, only it doubles the honey and omits the rose-water; and a curious cosmetic "secret" handed down from that distant age concerns a novel process, which is said to freshen and tone up the skin and remove crow's feet: Heat a shovel red-hot and throw upon it a pinch of powdered myrrh; receive the fumes upon the face by enveloping the head in a large towel, and stretching one end out over the shovel. Repeat this process three times; then heat the shovel still again, and sprinkle over it, with a vaporizer, a little white wine. Let this vapor also penetrate the face skin, and repeat three times. Modern ingenuity will find something more convenient than the shovel; a brazier and a metal plate over red-hot coals or an alcohol burner, would answer. The treatment is certainly agreeable, and doubtless would be beneficial.

The good dames of the *moyen-âge* were quite as much concerned about the preservation of their complexion as any of Eve's daughters have ever been since. Their popular bleach for the skin upon which sun and wind had left their browning touch was made by boiling a handful of parsley in a quart of distilled water; after filtering this, fifteen grains each of powdered alum, pulverized camphor, and powdered borax are dissolved in the parsley-water. To be shaken and used twice a day. A more effective way to add the camphor would be to make a julep first, formula for which is given in Chapter VIII., as camphor does not readily yield its virtue to water.

From the *moyen-âge* still-room, which was the *châtelaine's* sanctum in the castles and manor-houses of that period, comes yet another curious formula for a wonderful artifice that lends the dazzling bloom of health to the pallid complexion. "Paint?" Oh, no, perish the thought! Just a simple little vegetable concoction:

MOYEN-ÂGE INVIGORANT.

White-wine vinegar	1 pint
Honey	3 ounces
Isinglass	1½ ounces
Nutmeg	1 ounce
Red sandalwood (shredded)	½ drachm

Put all together in a *bain-marie* and let the mixture simmer for a half-hour over a slow fire, without coming to a boil. Strain or filter. Apply after giving the skin a cleansing bath with warm water and almond meal or a little soap. Let the lotion dry upon the skin. Do not leave on at night.

The various astringent lotions and the Cream of Pond Lilies and Elder-Flower Cream are the cosmetics for an oily skin and for enlarged pores; of course, in connection with the cleansing warm or hot bath at night. A few drops of benzoin in the morning bath-water will aid the cure, and should the face require cleansing during the day, it should be done with Hungary Water, or some of the astringent lotions. Here are two more formulæ for these which are excellent:

AROMATIC LAIT VIRGINAL.

Rose-water	1¼ pints
Tincture of myrrh	10 grammes
Tincture of opoponax	10 grammes
Tincture of benzoin	10 grammes
Essence of lemon	4 grammes
Tincture of quillaya, enough to make an emulsion.	

LAIT VIRGINAL ANTISEPTIQUE.

Lilac-flower water	1	pint
Alcohol 90%	8	ounces
Glycerine	5	ounces
Sweet almonds (powdered)	4	ounces
Salicylic acid	½	ounce

Triturate the almonds in the perfumed water; dissolve the acid in the alcohol, then add the glycerine, agitate till thoroughly mingled, then pour very slowly into the emulsion, stirring constantly. For other perfumed waters and toilet vinegars see the next chapter.

Such facial blemishes as moles, moth or liver spots, and other discolorations must be treated according to their specific character. Electricity, if skillfully applied, is the safest and most effectual remedy when they are of a serious or chronic nature. A fleshy mole which stands out prominently on face or neck can be removed by tying it closely, as near the root as possible, with a silk thread or a hair. This ligature stops the supply of nutriment, and in a few days the mole will shrivel, turn black and drop off, leaving almost no scar. It should not be picked or irritated. When discolorations are of a trivial or superficial character, even of long standing, the daily use of the glycerinated solution of mercury or Gowland's Lotion will blanch and sometimes entirely remove them, and the Freckle Specific is also excellent. Other remedies are:

1. Chlorate of potassium	30	grains
Rose-water	8	ounces

Or:

2. Vaseline	50	grammes
Chrysophanic acid	½	gramme

Or:

3. Lanoline.	20	grammes
Vaseline.	20	grammes
Peroxid of hydrogen	10	grammes

The first one is to be applied with a bit of antiseptic gauze or cotton, or even with a camel's-hair brush, to the discolorations, night and morning, for two days. In using the second care must be exercised to protect the eyes from the vapor of the acid. Apply to the moth-patches in the morning and wipe off with a bit of antiseptic gauze at night. If desquamation does not begin in five or six days, repeat the application, unless the skin is too sensitive to bear it. The last may be applied to the spots only, or to the entire face when the skin is deeply browned from a summer's exposure on the seashore.

CRISTIANI'S MOLE SALVE.

Diachylon plaster	½	ounce
Tartar emetic	1	drachm
Croton oil	5	drops

The plaster should be spread the exact size of the mole, and kept on till the mole suppurates, then remove and let heal.

"Shirley Dare" says that the cure of cures for moles, pure and simple, is salicylic acid moistened with alcohol or glycerine and bound upon the mole for a half-hour. The acid eats away the morbid tissue, leaving it less in size when healed, and three applications usually eradicate it. From a last-century beauty-book the same writer culled this home method of preparing salicylic acid:

"Take black-birch leaves and the inside bark that grows next the wood, an ounce of each, bruise them coarsely, and boil them in a half-pint of white wine and a pint of spring water till the liquor is very strong of them." When strained it is ready for use, and was directed to be applied warm.

It was commended to wash the ulcers left by small-pox, to be followed by some soothing ointment; and also for scurf and itching inflammations.

A *nævus*, commonly called birth-mark, is a dilatation of small blood-vessels and may be arterial, venous, or capillary. It is not safe to attempt home treatment for anything of this nature larger than a pea. For such minor blemishes this is effective: Cover the surrounding skin with vaseline or lard, then apply a large drop of nitric or hydrochloric acid to the *nævus*. Over the scab which will form lay the following paste:

Carbonate of bismuth.....	Equal parts.
Glycerine.	
Extract of belladonna.....	
Dilute hydrocyanic acid.....	

The acid will cause some pain, but it is the most effectual method of removal. After three days the paste may be gently washed off with warm water, and a little of the following cream rubbed thoroughly into the eschar. Apply it thickly afterwards and cover with a piece of court-plaster.

Sweet cream.....	1 drachm
White wax.....	2 drachms
Glycerine.	1 drachm
Spermaceti	1 drachm

Let the scab fall off without interference, and if the surface is still tender, continue the use of the cream. A harmless paint which may be used to conceal *nævi* is made by this formula:

Wood charcoal.....	½ drachm
Carmine.	½ drachm
Chalk.	5 drachms
Glycerine	1½ drachms
Flexible collodion.....	4 drachms
Rectified spirits.....	1 drachm

The color can be varied by relative amounts of chalk, carbon, and carmine. Another method is to wet the *nævus*, powder it white, and then apply a layer of flexible collodion, afterwards using flesh-colored powder over the whole face.

Always chief among cosmetic lotions, but one extremely dangerous to use, unless you are certain of the scrupulous care and honesty with which it is compounded, is *Aqua Cypria*, or *Eau de rose minerale*. These are attractive names under which that dangerous, but to women fascinating, poison, arsenic, masquerades. Cooley says concerning it: "Always an objectionable preparation, on account of involving the use of a dangerous and insidious poison, it becomes doubly so when carelessly or clumsily manufactured as a secret or 'contraband' article." It is credited with a marvellous property in softening and whitening the skin; and when compounded by the following formula is a very elegant and effective lotion which is perfectly harmless for external use. I must, at the same time, caution all women against taking any preparation of arsenic *internally* except under the advice of a physician. The harm wrought by it when the system does not require it is incalculable:

ARSENICAL COSMETIC LOTION.

Arsenious acid (finely powdered).....	4	grains
Pure rose-water.....	1	ounce
Glycerine (Price's).....	1	ounce
Distilled water.....	¼	pint

The water is brought to a boiling point and then poured over the arsenic in a jug or bowl; promote solution by stirring some time with a glass or ivory rod. After repose, when perfectly cold, pour off the clear solution, exercising care not to disturb any sediment or undissolved portion of the acid, which must be thrown away. Add the rose-water and glycerine to the clear liquid, and after thorough mixture by agitation, add sufficient cold distilled or soft water to measure exactly one pint. It should be put into five- or

six-ounce bottles, and marked "poison" distinctly in red ink. If but one bottle is left out, it contains such an infinitessimal portion of the arsenic that no serious accident could happen. In fact, nothing less than the whole quantity would be a fatal dose. It is applied like Gowland's Lotion, once or twice a day to the clean skin. Besides rendering the skin beautifully transparent and delicate, removing freckles, and healing minor eruptions, it is even credited with "improving the health of consumptive and scorbutic persons." I cannot vouch for these virtues, however, and it is suggested that they are greatly overrated.

I believe the day is not far distant when artificial make-up, the *maquillage* of the French, will be left to the stage and a certain class of women who announce their "calling" by its use. Could respectable women but grasp the thought in all its clearness, that to strangers their own social position appears more than dubious when they join the "painted and bedizened" sisterhood, they would not hesitate long about risking such misjudgment, but fling the paint and rouge pots far away, and devote themselves sedulously to the recovery of a naturally beautiful skin.

That the task would be attended with some difficulty, goes without saying. But the longer the pernicious practice is continued the harder it will be, for the inevitable penalty for the constant use of the injurious substances which enter into all these compounds is, that the skin even in youth becomes more drawn, wrinkled, and sallow than it would be in extreme age if given hygienic care. It must, indeed, have reached a sad state though, to be beyond recovery, given time and diligent care; and the earlier the reform the sooner the cure.

Always, the beauties of Oriental harems have been devoted to cosmetic arts, but while they have frankly adopted certain artificial methods of enhancing their attractions, they have always had too much regard for the preservation of their beauty to jeopardize it by coating their skins with

the deleterious enamels and paints which their Occidental sisters have used. They make an effective *rouge* from the petals of damask roses macerated in white-wine vinegar. Bright crimson silk dipped in spirits of wine and rubbed upon the cheeks, chin, and ears is said to be a safe and harmless rouge that defies detection. That, however, depends upon the hand that applies it. It requires all the skill of a portrait-painter—a deft touch with the fingers and a skillful eye—to make up so that you impose upon even the most indifferent eye. And any make-up which is not discreetly and artistically managed is vulgar in the extreme.

Of course, I know that there is a large class of incorrigibles who cannot be won over to see the lasting advantage of Nature's method of making a beautiful, translucent skin; and, therefore, I will point out the methods of attempting an imitation of her work which are least harmful. I have already shown that there are times and occasions when it is an advantage to protect the skin. And, further than this, it is always a woman's duty to look her best; sometimes to appear well when she is ill; and it is a harmless subterfuge if, to accomplish this pleasing deception, the pallid countenance for a few hours takes on the blush of health and strength. This can be done by adding just a soupçon of rouge after the Sultana Balm and *Poudre d'Amour*, or by using the *Moyen-âge Invigorant.*

When sitting for a photograph, also, it is very important that the fairest skin, if it have any discolorations upon it, be carefully powdered or made up. The lightest yellow freckles will develop in a photograph with startling intensity. A mixture of a little oxide of zinc and glycerine, thinned with rose-water to the consistency of cream, is commended for this use; but any good cream-and-powder make-up would suffice. Let one rule be unvarying in all make-up: The skin must be rubbed with pure white vaseline, cold cream, or oil, before any powder, rouge, or liquid paint is applied. This is well understood in all stage

make-up, and it protects the skin in a degree from the injurious effects of the *maquillage*.

It is vastly important that all powders be fresh; even old, stale starch, whether potato, rice, or corn, is irritating and corroding. Talcum, which is the powder of *Blanc Française*, is as harmless as any adherent powder. Owing to its unctuous nature and its impalpable fineness it is almost imperceptible; it is also cooling and it does not change color. *Blanc Perlé Liquide* is made of bismuth, and it changes color when left on the skin any length of time, first growing yellow and gradually darkening into a black sulphur mixture. Compounds containing lead turn blue after long exposure to sunlight; and in our modern highly chemicalized atmosphere, women's made-up faces have been known to take on the most uncanny appearance, due to the chemical change which their enamel or powder has undergone. This should be sufficient reason to induce women to shun their use. All the skin-balms and creams called "milk-of-roses," "cream of roses," "almond-blanch," etc., usually contain sugar of lead or Goulard's extract as their active ingredient, and are dangerous.

It is said that pure hydrate of alumina (or even kaolin) agitated in distilled water makes a perfectly harmless but effective skin cosmetic, being a powerful detergent and blancher, without causing the least irritation. The following formula is said to be essentially the same as the well-known

MAGNOLIA BALM.

Pure oxide of zinc	1 ounce
Glycerine	1 drachm
Rose-water	4 ounces
Essence of roses	15 drops

To be shaken, and applied with antiseptic gauze.

VIOLET BALM.

Pure oxide of zinc	4 drachms
Glycerine	2 drachms
Orange-flower water	2 drachms
Tincture of benzoin	10 drops
Essence of violets	15 drops

Dissolve the zinc in just enough of the orange-flower water to cover it, then add the tincture to the glycerine, and the remainder of the perfumed water; when thoroughly incorporated stir into the zinc, and add the essence. Tint with a few drops of ox blood, or a few grains of carmine. Shake before using. A little *veloutine* rubbed into the skin after it will increase the effect.

Genuine rouge is said to be the least injurious of all the substances employed in *maquillage*. It is obtained from a plant, the saf-flower,—*carthamous tinctorius*,—grown in Spain, Egypt, and the Levant; but it is so expensive that its use is quite restricted. Carmine, which comes next, has a most exquisite color, but its constant and long-continued use dries and yellows the skin, much as bismuth does. It is prepared from cochineal, the operation requiring much dexterity and patience, and its success depending upon atmospheric conditions. The test of its purity is that it is entirely soluble in liquor of ammonia.

Both these substances are used as dry powders, in pomades, and in liquid form. Vermillion, which is a preparation of sulphate of mercury, is an active poison. The utmost care is required in matching the shade of the rouge to the tint of the complexion. "Some cheeks have a wine-like, purplish glow; others a transparent saffron tinge, like yellowish-pink porcelain; others still have clear, pale carmine; others a faint brown that is as much richer than the snow and carmine of the pure blonde as a tinted crystal is finer than a colorless one; but the rarest of all is that suffused tint like apple-blossoms." Therefore, to approach the cunning of Nature's endless variety, it is necessary to modify

the tint of rouge by adding a trace of indigo for the deep rose-crimson, or a little pale yellow for soft tints, and the merest soupçon of brown for the creamy rich *brune* complexion. After you have obtained the exact tinge, it is necessary to prepare three shades of it, by adding a little of all the ingredients but the colors to different portions. Talcum powder is the usual dilutant in a simple mixture. Rouge pomades and liquid rouge are preferable to the dry sorts; but here are formulas for different ones:

DEVOUX FRENCH ROUGE.

Carmine	½ drachm
Oil of almonds	1 drachm
French chalk	2 ounces

Mix thoroughly; the oil is absorbed by the chalk and carmine, leaving it a dry powder, but adhesive. Sift through silk bolting-cloth.

BLOOM OF ROSES.

Strong liquid ammonia	½ ounce
Finest carmine	¼ ounce
Rose-water	1 pint
Extract of rose, triple	½ ounce

Put the carmine in a bottle and pour the ammonia over it; let stand two days with occasional agitation; then add the rose-water and extract. Let it stand a week before using. If the carmine be pure, there will be no precipitate.

Pure rouge—*carthamine*—dissolved in alcohol and acidulated with a little acetic acid is pronounced "very rich."

ROUGE D'ORIENT.

Lavender vinegar	100 grammes
Spermaceti	10 grammes
Rouge	6 grammes
Powdered talcum	15 grammes

Mix and filter.

CARMINE PASTE.

Carmine	2 grammes
Oil of sweet almonds	10 grammes
Extract of rose	5 grammes
White wax	5 grammes

Stir the substances together and leave to macerate for eight days,—in a warm place; then beat to a smooth paste. This is especially commended for evening use. An old formula for a so-called "harmless cosmetic" is this:

ALMOND BLOOM.

Brazil-dust	1 ounce
Water	3 pints

Boil, strain, and add

Isinglass	6 drachms
Cochineal	2 drachms
Borax	3 drachms
Alum	1 ounce

Boil again and strain through a fine cloth.

A French liquid-rouge which is also said to be innocuous, and is easily made at home in the strawberry season, is this:

STRAWBERRY FOAM.

Fresh ripe strawberries	3 quarts
Distilled water	1 pint

Place in a fruit-jar and set that in a saucepan of water over a slow fire to boil for two hours. Strain through very fine hair-sieve. When cold add:

Deodorized alcohol	12 ounces
Best Russian isinglass (dissolved)	30 grains
Pure carmine	15 grains
Otto of roses	4 drops
Oil of néroli	2 drops

Keep in the dark, closely stoppered, and in a cool place. All these liquid rouges are to be applied with a bit of absorbent cotton.

ROUGE AU NATUREL.

Pure brandy	1 pint
Benzoin	½ ounce
Red sandal-wood	1 ounce
Brazil-wood	½ ounce
Alum.	½ ounce

Put all together in a bottle, cork tightly; agitate thoroughly once daily. After ten days or a fortnight, decant and use. This is said to defy detection when applied lightly to the cheeks. It is necessary, however, the moment the first touch of artificial color is given to the face to bring up the adjacent features to harmonize with one another. A startlingly white nose cuts the face in two ; so a touch of rouge, deftly blended, is needed on the nostrils; if the nose be large, a very little on the sides will lessen its prominence. The chin, and the lobes and edges of the ears, too, must be touched with the rouge; very delicately, and in a rotary motion which will make streaks impossible and leave no edges. The pure extract of China rose-leaf, in powder, is said to give a very delicate and lovely tint.

BLEU VÉGÉTAL.

Venetian chalk	5 ounces
Methylene blue	3½ drachms
Gum acacia	2 drachms

Mix the powders with sufficient water to form a mass that can be rolled into sticks. This is used to mark blue veins which a coating of balms or paints has concealed. It requires some dexterity to apply in a natural manner. Breathe upon one of the sticks and rub it on the inside of a white glove, then trace the vein with the kid. It could be done more deftly with a Japanese paint-brush.

A liquid preparation for the same purpose is this:

LIQUID BLUE PAINT.

Solution of Victoria blue.....	100 grammes
Gum arabic.....	25 grammes
Orange-flower water.....	250 grammes
Rose-water.	125 grammes

Warm the rose-water slightly and dissolve in it the gum arabic; then add the other ingredients, and agitate till thoroughly mingled.

I cannot commend any of the pastes or masks advised for night wear. The pastes, especially, are in their very nature calculated to bring on the evils we are trying to combat,—they constrict the pores and shut in the sebaceous secretions; in fact, encourage that very laziness of the skin which produces pimples and blotches. The cotton mask soaked in equal parts of glycerine and water is a fomentation. I have known it to be used for two months with absolutely no effect, but it might, while drawing out the natural secretions, irritate to the point of pimples as does croton oil. A wet bandage kept bound about the arm or leg has been known to draw to the part so covered a lively eruption which drained off all the impurities seeking an outlet before on the face. The bandage is kept on for a few weeks or months, as the case may be, till the rash disappears and the part is entirely healed.

Look with a large measure of skeptical tolerance on the absurd directions and warnings which, from time to time, are spread broadcast as to certain methods of doing things, and which are announced as cure-alls, and reforms from time-honored errors. Of this sort is the grave caution not to bend the face over the wash-bowl while bathing it because of the serious tendency to cause the muscles to droop. If you will bring your mother-wit to bear on this abstruse problem, you will decide that slight as the movement must be, even with the most relaxed and flabby condition, it is

in a direction away from the *normal* droop; hence, so far so good. But the position is maintained for so short a time that its effect is really *nil.* The evil result of the direction is this: Those docile sheep who follow any leader who presents himself, never realizing the purpose for which God endowed them with intelligence, will adopt it, and henceforth carefully perform their ablutions with a damp washcloth. The amount of water needed to perfectly cleanse the face could not be applied to it in an upright position without drenching every thread of clothing on one.

The harrowing picture, too, that is drawn of the effect of using hot water on the face is based upon entirely false premises. It is compared, by one who stands high in his profession, to the laundress's poor water-soaked hands that have been nearly parboiled by their hours of immersion in hot suds; while as an actual fact the face that is habituated to its cleansing hot bath, never lasting longer than five minutes, is scarcely flushed by it. I know of no other agent so effective in aiding the whole structure of the skin to perform its work in the most normal, healthful, and beautiful manner; and far from rendering it sensitive, it has the reverse tendency.

The woman or girl who earnestly tries to preserve a good complexion, or who is harassed by a poor one, may take this comfort to her soul: patience and perseverance in following hygienic laws will bring their reward as surely as light follows darkness. The beauty of texture which throbs with the life it veils but dimly is the only true beauty, and the only lasting one, and this is yours if you work for it.

QUEEN LOUISE OF PRUSSIA.

CHAPTER VII.

THE BATHS OF LUXURY AND OF HYGIENE.

"I will go wash;
And when my face is fair, you shall perceive
Whether I blush or no."

"I want to help you to grow as beautiful as God meant you to be when he thought of you first."

"Till taught by pain,
Men really know not what good water's worth."

"NOWHERE else in the world has the giant of material progress worn such huge, seven-league boots" as in this truly great, but still crudely young, Republic of ours. But with all our progress, we have been culpably blind and negligent concerning certain fundamental principles which must underlie every fair structure that is building for all time.

The health of a nation, physical, mental, and moral, is its greatest wealth; but in our haste to grasp the glittering bauble of material riches, we have squandered these as recklessly as a child tosses the sands upon the seashore. The enormous fortunes accumulated by a few have enabled these lucky mortals unblighted by Saturn—who form, perhaps, the seventieth part of our teeming millions, floating buoyantly on top of the struggling, striving multitude—to surround themselves with everything that science and invention can furnish for the perfection of healthful living as well as its luxury.

The last is of minor consideration in this argument, being much a matter of taste, and too often perverted into a menace to health instead of an advantage. In certain noble hands its best fruits are shared with all, and it becomes an invaluable means of elevating the masses, improving their taste, and bringing beauty into their lives, as when collections of priceless works of art are made accessible to the public. Therefore, the one overwhelming advantage which the floating seventieth have over the multitude is, their ability to surround themselves with the most absolutely perfect sanitary conditions.

These conditions, in a certain measure, at least, a wise government should provide free for its less favored people who are unable to pay for them; and the return, in improved health and morality and consequent decrease in crime, would be a hundredfold. We have been disgracefully negligent in the matter of free public baths, and the good which would be accomplished by the establishment of these in every town and city it would be impossible to overestimate. When we consider the condition of the "great unwashed," the actual suffering in nervous irritability and countless bodily tortures from the want of cleanliness alone, the wonder is they are as patient,—that reckless, hasty crimes, vicious work of a moment's mad self-abandonment, are not more frequent!

The health, light-heartedness, and happiness of the Japanese are doubtless due in no small measure to their public baths, which make it possible for every man, woman, and child to enjoy a daily plunge. It would be a "retort courteous" if some of those so-called "barbarous" nations, to which in our arrogant pride of superior morality we send missionaries, would come here and start a public-bath crusade. That would perhaps turn a light upon us by which we could "see oursel's as others see us," and rouse public interest to remove this blot upon our civilization. "The soul and mind cabined within the confines of a dirty skin

can no more exercise their god-like prerogatives of highest reason and activity than a prisoner in a felon's cell can exercise his limbs with the vigor and agility of a free man. Healthy imagination thus becomes dormant or extinguished, and conscience itself obtunded or degraded into vice."

The instinct to bathe if opportunity offers is implanted in every human being, and only in false and unnatural modes of life are people deprived of it; their instincts becoming, at last, so perverted that they are as afraid of the external use of water as of inhaling fresh air. Even artificial baths are not unknown among most semi-civilized races; and our Indian tribes when the first white men came to this country, and even in this century when they roamed undisturbed in the Great West, built a sort of crude vapor-bath near the banks of streams.

They were rude excavations or a sort of bee-hive built of mud and sticks, having a small circular opening in the top for entrance. The bathers went in company, taking with them heated stones and jugs of water. The stones were sprinkled with water till the bath was filled with vapor. After profuse sweating was induced, the bathers plunged into the cold stream; and sometimes they returned for a second vapor-bath. William Penn describes such baths as used by the Indians to cure fevers and colds, one bath being sufficient to restore the patient.

Thermal springs no doubt gave to primitive man the first hint of the physical luxury and comfort of the warm bath; and when Nature failed to supply him with this, his ingenuity came to his aid and suggested the heated stone and vaporization with water; which, Erasmus Wilson says, furnished the original idea for the hot-air and hot-vapor baths.

The ancient Jews had thermal baths that were renowned for their curative virtues; and those near the city of Tiberias still exist and have lost nothing of their reputation; though,

of the once famous city not a stone remains upon another. We have greater knowledge on the subject of the therapeutic value of baths and concerning the hygienic regulations of all the details of life than has, before, at any one time in the history of the world, been at the service of mankind; and yet we are deplorably backward in applying this knowledge and in seizing the enormous benefits which should be made the common enjoyment and privilege of all.

Before the Christian Era the Greeks and the Romans revelled in their public baths. The hot-air bath of the Greeks was in all essential particulars very like our modern Turkish baths, and the Romans but copied it, with increasing luxury as the centuries rolled on, till we find Seneca moralizing upon their extravagant splendor: "We have come to that pitch of luxury that we disdain to tread upon anything but precious stones."

In the days of Rome's greatest wealth and power every succeeding Emperor tried to eclipse the glory of his predecessor and win the plaudits of the Roman mob, by the magnificence of the baths he erected. Thus, the Baths of Titus, where that treasure of the Vatican, the Laocoön, was discovered, were far exceeded in sumptuous appointments and in extent by those of Caracalla. The whole enclosure for these was a mile in circumference, on the Avertine Mount, and included a vast congeries of everything for the pleasure and health of man; gardens, gymnasium, theatres, temples, lecture-halls for the instruction of youth, and free libraries. In the *thermæ*, sixteen hundred persons could bathe at the same time; some authorities assert that the great swimming bath could accommodate three thousand. But the Baths of Diocletian marked the apex of sumptuous luxury, and exceeded all others in their vast extent, there being accommodation for three thousand six hundred bathers at once. The utmost expression of modern splendor in mosaic- and marble-inlaid walls and floors does not exceed, if it even equals, that of these ancient baths, which

were further beautified by marble and bronze statuary, columns, vases, and every ornament that the art of the time could devise. Silver pipes conveyed the hot water into the great marble basins.

By the close of the third century A.D., there were eleven of these immense public thermæ and nine hundred and twenty-six smaller ones, which were business enterprises, so a small fee was charged for their use. In addition to this, most private houses had their own baths, and those of the wealthy surpassed even the public ones in luxurious appointments.

Authorities differ as to whether the great baths were absolutely free or not; but none mention more than a nominal charge, a small copper coin of about a farthing's worth, as giving to the poorest plebeian in Rome the same freedom of their privileges enjoyed by the wealthiest patrician. They were conducted like vast clubs, with an immense retinue of slaves and servants; and thousands of the Roman youth frittered away their days in these magnificent halls, where every amusement and pastime could be enjoyed. That in time their luxury, enticement, and effeminacy demoralized and degraded the people, and hastened the decline of the Empire, there is not a question. It is the invariable result of all excess.

In the early days of the public baths, when bodily health and cleanliness was their sole purpose, it was one of the duties of the ædiles of Rome to inspect them and see that they were kept clean and at a proper temperature; and in those days their hygienic influence upon the welfare of the people was justly appreciated. Wherever the arms of Rome were carried, there baths were constructed for the sanitary benefit of the soldiers. Remains of these baths can be seen in the *Palais des Thermès*,—Hôtel de Cluny,—Paris, and in many towns in England. The first ones in the town of Bath were built by the Romans.

The splendor of Diocletian's Baths was enjoyed for only

a brief century, for they were begun in A.D. 302, and are supposed to have fallen into ruin after the Gothic invasion of 408. From the decline of the Roman Empire till the invention of printing, not only was the use of the bath as a remedial agent in disease lost sight of, but the very habit and necessity of bathing, except in a few isolated places, or during brief periods of local revivals, seems to have disappeared from among the customs of men in the Occidental nations. 'Tis scant wonder the period was called the Dark Ages.

It was not till near the middle of the present century that Dr. Barter, in Ireland, revived the use of the hot-air bath, and its application as a therapeutic agent. Yet for two hundred years travellers had extolled the Eastern baths and urged their adoption by the Western nations; for their use was kept alive in Africa and Asia and the far-Eastern parts of Europe. In Egypt and Persia, in the 17th century, when Europe was devastated with plagues and epidemic fevers which the learned physicians of the day treated in most drastic fashion with blisters, bleeding, and deadly drugs, malignant fevers were combated successfully with hot and cold baths and the free drinking of snow-water.

It is a question if the Occidental nations have even yet really freed themselves from the perverting influence of the attitude of the Dark Ages towards baths and fresh air. There is an Italian saying that an ancient Roman took as many baths in a week as a modern one does in all his life! And nowhere on the Continent are there private baths except in the most luxuriously appointed homes. Public baths there are in all large towns and cities at much more moderate price than any in this country; and during the last decade free public baths have multiplied rapidly; so that from being much behind us in the universal adoption of the custom, in the matter of providing for the multitude, Europe is leaving us in the background.

Our material prosperity is a beautiful thing on the surface, but it needs a sounder core before just men and true and those still hopeful of a great future for their beloved country can be content. We squander the health of the poor by surrendering them to unsanitary conditions; while the freer agents, the well-to-do, jeopardize life and health daily by the reckless violation of hygienic laws which they acknowledge and could obey.

It is not so very many years since it was necessary to urge the advantages of the bath; but in these days, while their necessity for the maintenance of health is everywhere admitted—there being but few so densely encased in prejudice and ignorance that they do not accede to the theory—yet, everywhere we find people who in practice ignore it. No possible combination of personal charm can make a person attractive or in any degree companionable without perfect cleanliness. "Beauty commonly produces love, but cleanliness preserves it." Therefore, it is not merely for our own advantage, on the score of health and personal attraction, that we must observe the most scrupulous care in the matter of baths; we owe it to our companions, to society, to every one with whom, in the exigencies of daily life, we come in contact, to impress them with the sweet wholesomeness of our presence. Not all the fine dress in the world, nor the most attractive exterior in form and feature, can efface the emotion of disgust which is aroused by the least suspicion of an odor of uncleanliness. Nothing else makes so favorable an impression at the first glance as one of extreme daintiness in personal care.

A skin loaded and obstructed with its exuviæ puts the body in exactly the condition for the absorption of all noxious vapors and infectious germs in the atmosphere. Thus are the poor compelled to take and to spread every contagious disease that is in the air. The greater part of contagious poisons are made epidemic in this manner. The poor have no weapons of defence; they cannot scrub away

the poison, but must absorb it into their own poor, run-down bodies.

Don't be afraid of being too clean, or of washing away your skin with too frequent use of soap. Soap is tonic, and if need be it can be used twice daily on the entire body with no other than beneficial effects. As for the cold "dab" of a five-minute's dash of water alone, commended by one health (?) writer as quite sufficient for the daily ablution, I have no respect for it. I have no quarrel with the cold bath for those with whom it agrees; only, accept it for just what it is, merely a stimulant. Its office as a cleansing agent is almost *nil*. The first effect is to contract the pores, so they yield none of their secretions; and the cold water has no affinity for the oily, saline, and acid matter already exuded upon the skin. The brisk rubbing takes off a little of this, but by the time the glow of the reaction is felt the body is being hurriedly clothed, and whatever secretions the glands of the skin have the energy to throw out, either rub off upon the clothing to contaminate it, or remain in the orifices of the ducts.

The extreme purity of the skin being absolutely essential for health, it follows that the daily bath is the surest means to secure it; and nothing conduces more to keep the skin soft, the flesh firm and round, the limbs pliant, and the whole body vigorous than frequent baths. Many beauty-destroying disorders are induced by neglect of bathing, for everything which depresses the action of the skin lowers the tone of all other vital organs. The volatile matter, or vapor, exhaled daily by the skin in normal health is twice that which the lungs eliminate, hence an inactive skin throws extra work upon both lungs and kidneys; and if it does not disease these organs it will wear them out prematurely. Three fourths of the diseases to which civilized man is subject are attributed to the pores of the skin becoming stopped up.

If women could but realize the nature of the poisonous

matter exuded from the skin through its millions of pores, it would not be necessary to advocate the advantages of the bath and its absolute necessity. It is only by experimenting that a woman can determine the frequency and the temperature of baths which best agree with her. No arbitrary rules can be laid down. Especially in the matter of temperature is individual discretion the only law; and by no means should one person arrogantly prescribe her own regimen for another. We can give advice on this subject, and general rules, but that is all.

Viewed simply on general principles the night bath is not healthful. With many persons it is too stimulating—no matter what the temperature or kind of bath—and prevents restful sleep. Where there is a predisposition to insomnia it is calculated to intensify the trouble. After the inertia of the night's repose, the skin needs the stimulus of the bath to encourage its functions, and also to free it from the wastes which otherwise would dry on it. The morning bath invigorates the whole body, corrects sluggishness of the bowels and torpid action of the liver, while stimulating every organ, tissue, and structure of the body to do its work.

A very different principle is involved here from that which insists upon the cleansing bath for the face at night. The body has not been exposed to the dust-laden air, nor, worse yet, coated with paints and pastes; and the slight rubbing of the clothing has attracted to the under-garments a portion of the exuviæ. Health requires the removal at night of every garment worn during the day; and least of all should the close-fitting under-vest be retained. If this bad habit has been indulged it can be broken gently, and by degrees, by wearing for a time night-gowns of pongee or thin, fine flannel. It is of great importance that the skin of the body be released at night from all clinging garments of close-textured fibre. The looser the gown, the more the flesh can be lapped in the air which it so much needs.

The tepid bath, whose temperature is from 85° to 92° Fahr., is sedative in its character; the hot bath, with temperature from 98° to 112° Fahr., is stimulant; and between the two comes the warm, with a temperature between 92° and 98° Fahr., which is comfortable, reviving, and a wonderful restorer. The cold bath is below 60°, and the cool one between 60° and 75° Fahr. As between the cold and the hot or warm baths, it may be said; the one stimulates the circulation, but the other acts with a marvellous and unerring certainty that nothing else can equal in facilitating all the renewing processes of organic life. In fact, judiciously applied, both externally and internally, there is no other agent than water which so assists the process of renovation; that is, the assimilation of nutriment and the elimination of waste. The least disturbance of the perfect balance of these is the incipient seed of disease; and the secret of longevity is the maintainance of this function in its integrity. Years ago, when hydropathy was first introduced, Liebig said: "By means of water-cure treatment a change of matter is effected in a greater degree in six weeks than would happen in the ordinary course of nature in three years."

The advocates of cold baths are like the early riser. They cannot fully enjoy the practice of the extraordinary virtue upon which they plume themselves without forcing it upon all their fellows. There is something of hardihood engendered in the very act which makes them radicals of the extremest sort, intolerant of all divergence from their ways and opinions.

Setting one side the hot bath's manifest superiority as a cleansing agent, it will doubtless surprise the cold-water faddist to be told that the ultimate result of both hot and cold baths, in moderation and when perfectly adapted to the constitution, is about the same; each stimulating the circulation of blood through the skin. But the expense to the vital economy is very unequal. "The effects of the hot

and cold bath upon the combustion processes going on in the body may, not inaptly, be compared to the effect produced upon a furnace by the hot and the cold blasts, both of which encourage combustion and increase the heat given off by the furnace; but the hot blast so facilitates combustion that the same work is done by its aid, with an expenditure of 2½ tons of coal, that is done by the cold blast with an expenditure of 8 tons of coal."

Therefore, the test for the cold bath's agreeing with the individual is not merely its being promptly followed by a healthful glow; it is a question of superfluous vitality. Have you fuel to throw away? Have you more physical strength, more sound, firm flesh than you need? Some people have. Let them consume it in this healthful fashion. But do not try to persuade the weak that they can gain strength by using it so wastefully. The hot bath facilitates and stimulates the *natural* combustion processes of the body; the cold bath to produce the same result lavishes four times the amount of energy. If this fact were more generally understood there would be less ill-advised insistence upon delicate persons "hardening" themselves by submitting their systems to the shock of the cold bath. One further caution also is necessary: When there is a predisposition to cutaneous disorders, the cold bath tends to increase them.

If the morning bath is a cold one, there should be at least three warm or hot cleansing baths every week, but the season of the year and personal exposure must regulate this. Under all circumstances the feet should be bathed both night and morning. In warm weather there is a natural inclination to bathe more frequently than at other seasons, and the daily, warm cleansing bath will do more to keep one in health and comfort than anything else. An excellent regimen for hot weather is to take a sponge-bath before breakfast in water in which sea-salt has been dissolved; and take the warm cleansing bath a half-hour before the evening dinner, or when making the last toilet for the day.

When there is no convenience for the daily plunge-bath, it is quite possible, though not so pleasurable and more troublesome, to secure the same benefit with a basin or foot-tub of hot water. The essential thing is to open the pores of the skin and cleanse it by the free use of soap and water, followed by abundant friction. For such a bath it is an advantage to use hotter water than could be used for the plunge. A bath of this sort, with the water aromatized and softened with tincture of benzoin or some fragrant water, can be taken every morning, summer and winter, with none but the most beneficial results. Followed or preceded, according to convenience, by ten or fifteen minutes devoted to physical exercises, its influence upon body and mind is purifying and invigorating, preparing one for any duty or perplexity that the day may have in store. Especially when sleep has not been restful or when it has been too short to atone for the previous fatigue, I have known the hot morning-bath to restore the vitality as much as three or four hours of sleep could do. It is really a wonderful corrective of the morbid conditions induced by brain exhaustion and want of exercise. That this opinion differs radically from the theory usually advocated, I know well; but it is the result of experience, and repeated tests of different methods.

No one should remain in the plunge-bath, be it tepid, warm, or hot, longer than a half-hour; and in most cases ten minutes is quite long enough. The needle-spray with cold water, after the hot bath, has sometimes a tonic and very invigorating effect, being especially beneficial upon the neck and bust. But the sponging off with cold water (with a wash-cloth or bath-mitten, *not* a sponge) is as often nugatory as beneficial. I am perfectly aware that this sounds like heresy, but I assert nothing not proved by experience. It would better be omitted with the basin bath, the air of the room being all that is necessary to insure the most perfect adjustment to the normal circulation. This air bath is, by the by, an important adjunct of all bathing; and one

advantage of the basin bath is that it affords more opportunity for it than does the plunge.

Invention has been rife in this *fin-de-siècle* period in restoring to the bath something of the refinements of luxury which not so long ago were but legends of the past. We do not yet take baths in fruit juices, nor in tepid perfume as did Caligula; but we do scent them with aromatic oils as was the luxurious fancy of Helagabalus. And there are many medicinal and perfumed baths which are sovereign in their effects.

A good substitute for the celebrated beauty-baths of milk is the following mixture, which can be put in the ordinary bath. The materials should be thoroughly incorporated with one another and put in cheese-cloth bags:

MILK BATH.

Marshmallow flowers	½ pound
Hyssop herb	¼ pound
Bran flour	4 pounds

A camphorated bath is tonic and refreshing, and is prepared by dropping slowly into the warm water sufficient of the following lotion to make the water milky and fragrant:

Tincture of camphor	1 ounce
Tincture of benzoin	½ ounce
Cologne	2 ounces

AROMATIC BATH.

Macerate, in warm water for two hours, eight ounces each of lavender, thyme, and rosemary, together with a half-ounce each of ground cloves, cinnamon, and peppermint; strain, and add to an ordinary bath. This is tonic to the nerves and refreshing after great fatigue, and, moreover, disinfectant; therefore to be commended after long rides in crowded street-cars, or any other exposure to the unknown dangers that stalk abroad with the great unwashed.

The advantage of a sea-bath can be enjoyed in the interior by the use of this compound:

SEA-WATER BATH.

Muriate of soda	2 pounds
Sulphate of soda	1 pound
Chloride of lime	½ pound
Chloride of magnesia	½ pound

This should be dissolved in two gallons of warm water, and is sufficient for the ordinary bath of thirty gallons.

The temperature of this bath must be regulated, like that of the hot sea-bath, by personal peculiarities. What would be simply soothing and tonic to one, would prove too exciting and stimulating for another having a highly sensitive constitution. The absorption of salts in the warm bath stimulates the functions of the entire body, and, therefore, promotes the more ready oxidation of the tissues. The average temperature is 94° to 96° Fahr., but if it is desired to induce perspiration, often extremely beneficial, it is necessary to raise it to 98°. The best time to take this bath is mid-morning, three hours after breakfast, or an hour and a half before the evening dinner. Its tonic and soothing effects are gained in fifteen minutes; to remain in the bath longer than this is relaxing.

A salt rub is also tonic, and is given in the morning, after a tepid or warm bath, by taking a handful of sea-salt and rubbing it upon the body. The cold spray or sponging should succeed it, followed by brisk rubbing.

Oatmeal bags used frequently in the bath are very pleasant; they whiten the skin and give it a velvety softness, besides imparting to it a delicate fragrance. Make the bags of cheese-cloth, about four inches square, and fill them loosely with the following mixture:

OATMEAL BATH-BAGS.

Oatmeal	5 pounds

Florentine orris-root (powdered).....	1 pound
Almond meal.....	1 pound
Old Castile soap, scraped to a powder..	½ pound

A French device for a calming bath in the spring is to toss three handfuls of wild cowslips into the warm water. It is said to be delightful.

Another, which is pronounced very soothing to the nerves, is to make an infusion of five hundred grammes of linden flowers and add to the bath. Emollient baths which are extremely cleansing, and credited with rendering the skin very supple, soft, and white, are made by adding to the bath-water from two to six pounds of bran; or two pounds of farina, corn-starch, or oatmeal; or half as much linseed meal or gelatine. A better effect is gained when these meals are boiled for fifteen minutes, and then put into a cheese-cloth bag, which is thrust into the bath. These are all much used by French women, and they place great faith also in a salt-and-herb bath called "Salt of Pennés." It has tonic properties and is said to improve the complexion, regulate the circulation, and to be especially beneficial for those of florid habit, inclined to red noses. The formula is given in the amount for one large bath, but it can be prepared in larger quantities and kept in jars ready for use:

BAIN DE PENNÉS.

Bromide of potassium.....	1 gramme
Carbonate of lime.....	1 gramme
Carbonate of soda.....	300 grammes
Phosphate of soda.....	8 grammes
Sulphate of soda.....	5 grammes
Sulphate of alumina.....	1 gramme
Sulphate of iron.....	3 grammes
Oil of lavender.....	1 gramme
Oil of thyme.....	1 gramme
Oil of rosemary.....	1 gramme

A Vichy bath can be achieved by dissolving five hundred grammes of bicarbonate of soda in the bath-water. It is

very soothing when summer heat has developed a rash or hives. For this last uncomfortable condition, often developed by sea-bathing, the following lotions are also efficacious:

NO. 1. LOTION FOR HIVES.

Chloroform	10 grammes
Oil of sweet almonds	30 grammes

Or,

NO. 2.

Powdered borax	½ ounce
Spirits of camphor	1 ounce
Glycerine	6 ounces

Either lotion can be applied to the affected parts several times daily, according to the intensity of the irritation. The use of violet talcum-powder is also cooling and soothing.

The virtues of the celebrated hot baths of Plombières, in the Vosges Mountains, are imitated in this formula:

SELS DE PLOMBIÈRES.

Crystallized carbonate of soda	100 grammes
Chlorate of sodium (pure)	20 grammes
Sulphate of soda	60 grammes
Bicarbonate of soda	20 grammes
Gelatine (pulverized)	100 grammes

Mix the salts together; dissolve the gelatine in five times its weight of warm water. When ready for the bath pour both into the hot water. One of the great virtues of the natural baths is their heat, which varies from 80° to 160° Fahr. To derive the greatest benefit from this bath it should be taken at a temperature of 98° to 125° Fahr., so as to induce free perspiration.

A delightful aromatic bath which is also efficacious for the same purpose is this:

AROMATIC SALTS BATH.

Thyme (dried)	200 grammes
Rosemary (dried)	200 grammes

Mallows (dried)	200 grammes
Linden (dried)	200 grammes
Rose-petals	200 grammes
Bicarbonate of soda	250 grammes

Steep the herbs in eight quarts of boiling water for a half-hour; decant, and dissolve the soda in the infusion. Add to a bath of the same temperature of the foregoing. The penetrating sweetness and invigorating, soothing effect of this bath must be enjoyed to be thoroughly understood. Of the great value of the perspiration induced, I shall have more to say; but these baths are especially beneficial to persons of bilious habit or suffering from torpid liver.

For pallid, nervous, under-nutured women, whose generally abnormal condition is summed up in the one word anæmia, Dr. Vaucaire says experience has demonstrated the great utility of this bath:

VAUCAIRE'S INVIGORATING BATH.

Sulphate of potassium	50 grammes
Sub-carbonate of soda	100 grammes
Gelatine	40 grammes

Dissolve the gelatine in a quart of boiling water, and add it and the salts to a hot bath.

Persons of neuralgic or rheumatic habit will derive benefit from adding a little oil of turpentine to the warm or hot bath, and their sufferings from an acute attack will be greatly relieved by the following:

ANTI-RHEUMATIC BATH.

Green soap	100 grammes
Oil of turpentine	60 grammes

Put in a small jug and agitate till the mixture is a foaming froth, then add to the hot bath. As the warmth penetrates the body an almost immediate diminution of pain will be experienced. As soon as a prickly sensation is felt, in about fifteen minutes, the sufferer should leave the bath

and go directly to bed. Restful sleep will usually follow; and after a few hours, the patient will waken feeling very much better.

Another bath of somewhat similar character, but much more complicated, is pronounced an admirable tonic for the nerves and stimulant to the circulation; while it is claimed for it, moreover, that it will cure rheumatism and lumbago:

TONIC PINE BATH.

Green soap	12 ounces
Tincture of benzoin	7 ounces
Oil of turpentine	7 ounces
Oil of Norwegian pine	7 ounces
Oil of rosemary	7 ounces

Make into an emulsion. Add one pint of this and one quart of spinnach-juice to a hot bath in which have been previously dissolved four ounces of bicarbonate of soda and three pounds of sea-salt. The temperature of the bath should be as hot as can be borne with comfort; and rest, sleep, if possible, should follow it.

One of the famous Father Kneipp's baths is made by boiling for a half-hour a pound, more or less, of fresh, resinous pine-needles and pine-cones, broken into bits; strain and add the infusion to a hot bath. It is considered strengthening, and stimulates the function of the skin.

The baths which Father Kneipp most frequently prescribed were decoctions of the flowering tops of hay or of oat-straw. A bag is filled with one or the other and boiled for a half-hour, and the decoction is poured into the bath. The first is the mildest in action, but pronounced "the bath of all baths to supply caloric"; that is, to stimulate the metamorphosis of tissue. The oat-straw bath is more vigorous in its action and renders excellent service in diseases of the kidneys and bladder.

A *moyen-âge* formula for a beauty-bath directs the following *melange:*

BAIN DE BEAUTÉ.

Barley	2	pounds
Rice	1	pound
Pulverized lupin-seeds	3	pounds
Bran	6	pounds
Oatmeal	2	pounds
Borrage	½	pound
Lavender	½	pound
Wild gilly-flower	½	pound

Boil in soft water for an hour; strain, and add two quarts of the decoction to the bath-water, in which you have previously dissolved an ounce each of borax and bicarbonate of soda. This is pronounced unequalled for its cleansing, whitening, and softening effect upon the skin.

After a fatiguing day, a woman can do nothing which will more quickly restore tone to thobbing nerves, rob strained, tense muscles of their aching weariness, and fit her again for the duties of life—as looking fresh and *comme il faut* at the dinner-table, and ready for any evening amusement—than to take either some kind of aromatic hot-bath or to follow the simple hot-water bath by spraying the body with a fragrant toilet-water, Cologne, or invigorating aromatic vinegar. If the head is aching—most women's heads do ache when they are tired—break the two-baths-a-day rule and bathe the face also in hot perfumed water. Do it slowly, rubbing the forehead and temples in the rotary motion and let the hot cloth linger behind the ears and on the back of the neck. This treatment will revive and rest one more than an hour's sleep can.

Of Colognes there are countless grades and sorts, but here is the secret of the best. Cologne-water, so universally used in all civilized countries, was invented in the Flemish city which gives it its name by one of the Farina family, early in the eighteenth century, but it was originally known as *ésprit de vie*—elixir of life. It owes its peculiar and beneficent qualities to the citron family, various combinations of whose fragrances form the principal ingredients. One ad-

VINAIGRE DES QUATRE VOLEURS.

Lavender flowers	1	ounce
Fresh tops of rosemary, thyme, rue, sage, wormwood, and mint, of each	¾	ounce
Calamus, nutmegs, cloves, and cinnamon (bruised), of each	1	drachm
Camphor	1	drachm
Alcohol	2	ounces
Strong wine-vinegar	1	quart

Dissolve the camphor in the alcohol, then add the herbs, spices, and vinegar; let it stand to digest for ten days, then strain. This is said to have been the means by which the four thieves who robbed the victims of the plague in Marseilles escaped contagion while engaged in their ghoulish work. When detected in the crime, one of them escaped the gallows by giving the formula to a physician.

VINAIGRE TONIQUE.

Oil of bergamot	12	grammes
Oil of citron	10	grammes
Tincture of benzoin	12	grammes
Extract of lavender	30	grammes
Pure white vinegar	1¾	pints

Let this infuse for ten days, then filter. Dilute with four to five parts of water when using. Rose or distilled water can be used, or, better still, freshly boiled hot water. Especially upon the face, all toilet-waters have a better effect when applied warm. This is excellent for relaxed tissues and a coarse skin.

Lavender vinegar can be made by the formula given for flower vinegars (see next page), a method which gives the odor, whether flower or herb, in the purest and simplest form. It is especially calming and invigorating, and hence a most agreeable addition to the bath in hot weather. Two compound formulæ which are more highly aromatic are these:

AROMATIC LAVENDER-VINEGAR.

Lavender-water	1	quart
Rose-water	5	ounces
Glacial acetic acid	2½	ounces

VINAIGRE DE LAVANDE.

Oil of lavender	½	ounce
Oil of bergamot	½	drachm
Oil of lemon	¼	drachm
Tincture of ambergris	1	ounce
White-wine vinegar	1	pint
Rectified spirits	½	pint

A refreshing toilet-water for which almost as fabulous virtues are claimed as for Hungary Water is

EAU DES BAYADÈRES.

Oil of bergamot	12	grammes
Oil of citron	5	grammes
Oil of Portugal	5	grammes
Oil of néroli	3	grammes
Oil of petit-grain	3	grammes
Oil of rosemary	1½	grammes
Otto of roses	2	drops
Balsam of tolu	3	drachms
Spirits of wine (rectified)	1	quart

Infuse for two to three weeks; then filter. Fifteen to twenty drops in a quarter-glass of warm water makes a most delightful lotion. Dilute it with four parts of rose-water, to fill an atomizer, as the body is sprayed while still wet from the bath. It is said to whiten the skin, make freckles grow dim, and to stimulate the functions of the skin so much as to heighten the color.

Other excellent toilet-vinegars are these:

ORANGE-FLOWER VINEGAR.

Extract of néroli pétale	3½	ounces
White-wine vinegar	1	pint

VIOLET VINEGAR.

Extract of cassie	4	ounces
Extract of néroli bigarade	1¾	ounces

steam-bath." Sometimes a dash of some extract is added to increase the fragrance.

EAU DE HELIOTROPE.

Orange-flower water	½	pint
Vanilla (coarsely powdered)	4	drachms
Essence of ambergris	½	drachm
Oil of bitter almonds	6	drops
Oil of cassia	6	drops
Spirits of wine (rectified)	1	quart

Digest for ten days, then filter through porous paper.

GUIBERT'S EAU INCOMPARABLE.

Essence of lemon	4	drachms
Essence of bergamot	3	drachms
Essence of cedrat	2	drachms
Hungary water	½	pint
Spirits of wine (rectified)	2	quarts

Agitate all together, and add

Pure water	¾	pint

Agitate again, and distil. This was formerly credited with extraordinary medicinal virtues, and is used much as Eau de Cologne is, for headaches and faintness. It is also one of the ingredients in some of the after-dinner liqueurs.

AQUA MELLIS ODORIFERA.

Esprit de rose (No. 3)	1	pint
Esprit de jasmin (No. 2)	½	pint
Orange-flower water	½	pint
Spirits of wine (rectified)	½	pint
Essence of vanilla	1	ounce
Essence of musk	6	drachms
Essence of ambergris	3	drachms
Oil of Portugal	2	drachms
Oil of rosemary	1	drachm
Oil of thyme	1	drachm
Flowers of benzoin	½	drachm

Mix and let stand for a fortnight, agitating several times daily. Though devoid of honey, it possesses its concentrated sweetness, and it is esteemed as a skin-lotion as well as for its perfume.

The popular pungent lavender-water is made by the following formula:

AMMONIATED LAVENDER-WATER.

Oil of lavender (Mitcham).....	1 fluid ounce
Spirit of ammonia (caustic).....	1½ pints

Mix; and fill vinaigrette as previously directed. This is the preparation of the French pharmacopœia, and much esteemed to relieve headache or faintness.

As the rose is queen of flowers, so there is no other odor which approaches it in value to the perfumer. Only the genuine extracts of orange-flower and violet can at all compare with it in delicacy of fragrance. Of all fragrant toilet-waters none is used so much as rose-water, and when pure there are none which possess greater cosmetic virtue; but, alas! the rose-waters of commerce are too often poor diluted slops; even made of impure water, which rapidly decomposes as soon as it is exposed to the air. The finest distilled waters are made in France, where the flowers are grown in perfection, and where great skill and care are exercised in the extraction of their odors. There is, however, a disagreement of authorities as to the method; one insisting upon the superior quality of the water distilled from the fresh flowers, and the other claiming greater refinement and delicacy for the product of salted or pickled flowers (and herbs, as the case may be). It is further said that the latter method keeps better and reaches its maturity, or full development of odor, in a shorter time.

In preparing rose-water, different formulæ call for four pounds of the petals to ten quarts of water; or ten pounds to eight quarts. In both, only half the water is distilled, and the usual practice is to reject the first two or three

ounces that pass from the still. The product is well shaken and stored, loosely covered, in a cool, dark place for several weeks, "or even months," till it loses its rawness and develops its full odor. Then it is decanted into small bottles and closely corked. When the flowers are salted they are packed in an earthen jar and covered with a weak brine of common salt. Every day's gathering being added to the stock till sufficient quantity has been saved.

An improvised still can be made by fastening an India-rubber tube to the spout of a tea-kettle, and passing it through a pail of cold water to condense the steam. The distillate should be received in a glass, earthen, or tin receptacle; as, if the waters come in contact with copper, zinc, or lead, they will oxidize and dissolve the metals. Stills for home use are now made at prices which are no longer prohibitive. They range in capacity from a half-gallon to one hundred, and the smaller size are extensively used to purify all the drinking-water for a family.

DOUBLE-DISTILLED ROSE-WATER.

Otto of roses..... 3 drachms
Rectified spirits (strong; hot)..... 1 pint

Dissolve, throw the solution into a 12-gallon carboy, and add

Pure distilled-water, 185° Fahr..... 10 gallons

Cork the carboy loosely, and agitate the whole briskly, though with caution, until quite cold. Cooley pronounces this excellent. "Answers well as a vehicle, and keeps well, and is superior to much of the trash carelessly distilled from a scanty quantity of rose-leaves."

Elder-flower water is made from the variety *Sambucus nigra*, which grows wild in Europe. It should be made from the fresh flowers, as they greatly deteriorate in drying; and our American variety, the *Sambucus canadensis*, is just as good for the purpose.

Orange-flower water is made like rose-water; ten pounds of the flowers to two gallons of water. Syringa flowers can be prepared in the same way, and are one of the adulterants of which commerce makes too much use. Myrtle water, which requires three and a half pounds of flowers to two gallons of water, is a delicate and pleasant perfume. It is always possible to increase the strength of distilled waters by repeating the operation with fresh flowers, as is done with the extracts and pomades for the choicest products. This would be an excellent plan when working in a small way with flowers from a private garden. All the garden pets, mignonette, lilies of the valley, clove-pinks, valerian, heliotrope, and honeysuckle, as well as roses and violets, could thus be made to yield their fragrance for winter joy and comfort as well as summer pleasure.

Eau d'Ange, also called Portugal Water, is made by the following formula, and is esteemed as one of the "beauty waters":

ANGEL WATER.

Eau de rose	5 ounces
Eau fleur d'oranges	5 ounces
Eau de myrte	2½ ounces
Essence of ambergris	1 drachm
Essence of musk	½ drachm

Mingle and agitate for several hours, and frequently every day for a week, keeping the bottle closely stoppered and in a warm place, but preferably dark, or wrap the bottle in papers to exclude light. Let it repose for two weeks or longer, then decant, and if not perfectly clear, filter. It should be almost colorless.

FLORIDA WATER.

Oil of lavender	2 drachms
Oil of bergamot	2 drachms
Oil of lemon	2 drachms
Oil of néroli	1 drachm
Tincture of turmeric	1 drachm

Oil of balm	30 drops
Otto of roses	10 drops
Rectified spirits	1 quart

Agitate all together, cork tightly and leave to digest in a warm, dark place for several weeks, agitating daily, for the first ten days. Decant, and filter if necessary.

Genuine bay rum is imported from the West Indies, where the fresh leaves of the bay-tree—*Myrcia acris*—are distilled in a crude sort of alcohol, a product obtained in the manufacture of rum from molasses.

Askinson's formula is this:

BAY RUM.

Oil of bay (from Myrcia acris)	240 grains
Oil of orange (bigarade)	16 grains
Oil of pimenta	16 grains
Alcohol	1 quart
Water	25 fluid ounces

Dissolve the oils in the alcohol and add the water. Stir into the liquid about two ounces of precipitated phosphate of lime, and filter. It will improve by age.

Any list of bath-waters would be incomplete without including Mme. Sara Bernhardt's famous skin-tonic which makes the flesh firm and elastic while strengthening and whitening the skin and soothing the nerves. It may not agree with skins inclined to eruptions.

BERNHARDT'S EAU SÉDATIVE.

Alcohol	½ pint
Spirits of camphor	2 ounces
Spirits of ammonia	2 ounces
Sea-salt	5 ounces
Boiling water	to make 1 quart

Put all in a bottle and agitate thoroughly. Rub into the skin with the hands; shake always before using. It is an excellent plan when baring the arms and neck for evening-

dress to bathe them with this lotion; and it takes the fatigue out of tired muscles after a long walk.

But with all this we have not done all that can be done for the cleansing of the body. There remains the purifier of purifiers,—the Turkish bath; and its substitute, the home vapor-bath, which can be given in many ways. Beyond the mere surface cleanliness of the body which the hot bath insures, we need something more to assist its perfect purity. We need to so stimulate the action of the glands that their ducts and pores shall be thoroughly flushed.

A sedentary life or irregular habits, everything which exhausts the nervous system, deranges the sebaceous glands more than the sudoriferous; and when its organism is torpid, not only is the skin deprived of its natural emollient, but the solid and dried secretions set up an irritation on their own account, and become an inflamed breeding-ground for the little parasites mentioned in the previous chapter. Nothing except an abundance of outdoor exercise so stimulates and insures the healthful action of the sebaceous system as the hot-air or the vapor-bath. And the two together defy torpidity!

There is no form of skin disease in which the hot-air bath cannot be employed to advantage, and its regular use is authoritatively pronounced "prophylactic of them all." Its influence upon the mind and disposition through its soothing action upon the nervous system is most beneficent; and it is as good for the infant as for its mother, developing in the babe an increased power to resist the disorders to which through injudicious treatment it is exposed. Dunlop says: "It is an easy and certain means of strengthening the constitution of delicate children—it educates, trains the skin to withstand climatic changes, and thus prevents chills, colds, and an array of evil consequences—and, above all, it counteracts or eradicates, as nothing else can do, inherited proclivities to disease, which are the penalties of past transgressions of Nature's laws."

Among the Turks, their hot-air bath is used as a preventive measure in disease, and takes the place of medicine almost entirely. As every drop of blood courses through the whole system of circulation many times in an hour, it ought readily to be understood what an advantage it must be if by means of the hot vapor we bring to the surface of the body every drop of its blood, subjecting it to a purifying and renovating process not less important in its effects than that which the lungs render it.

In disease there is no other so prompt method of relieving internal congestions, and promoting the restoration of normal conditions, because of the facility with which the morbific products and decomposed wastes which excite disorder are expelled from the system. The blood is returned to the vital organs aerated and purified; and this condition fully established means, that the foundation of all organic life and health is laid.

In cases of croup the function of respiration is dangerously threatened, for the inflammation extends rapidly from the throat to the bronchial tubes. A membrane is formed in the throat, whose muscular contraction threatens strangulation; and the poisonous accumulations in the lungs at the same time may cause blood poisoning; so the situation is critical and demands prompt relief. If by inducing profuse perspiration the skin can be made to perform the work of the lungs, the battle is won; for not only is the blood quickly freed from its deadly poisons, but all the congestion and inflammation is relieved, the breathing improves, and Nature instantly inaugurates her helping work in restoring the internal economy to its healthful, normal action. In all acute diseases of the lungs or throat such immediate relief is afforded by this natural, unmedicated agent, that one marvels it is so infrequently resorted to. Countless lives might be saved every year by this means.

Concerning the important office in the human economy of the perspiratory system the lay mind exhibits, too often,

a woful ignorance. There are, indeed, delicate creatures, men as well as women, who think it "Quite vulgar, don't you know, to sweat!" But, really, the results of not doing it are much more vulgar, for they involve impurity and uncleanness. Here let me explain that there is a curious distinction in nomenclature, which is often confused when not ignored. The word perspiration, which for some mysterious reason is not considered so offensive as sweat, applies only to the invisible exhalations from the ducts. When the sudoriferous excretions stand in visible drops it is sweat.

The normal constituents of sweat are various salts and acids which are subject to curious chemical changes, and when retained in the system are active poisons. Certain of these are odorless; others, when the body is in perfect health, have a slight, indefinable fragrance; but the butyrates are rank. They are salts formed of butyric acid and a base; and the acid is oily, with an offensive odor, being the same chemical property which gives to butter its rancidity. If proof were wanting of the disastrous effect of violent emotions upon the health, we have it by analysis of these excretions, which reveal the most remarkable chemical changes wrought by the emotions of the moment. An ungovernable temper, melancholy or brooding sorrow, anxiety and worry; in fact, every evil emotion, produces its particular poison, which can be identified by chemical analysis. To balance this evil, all generous emotions, as well as pleasurable ones, every agreeable thought, produces chemical products which are salutary.

A French *savant* who gives this theory to the world further avers, that if a small quantity of the sweat from a person suffering under the consciousness of guilt be placed in a glass tube and brought in contact with selenic acid it will turn rose-color. No other poison from the sudoriferous glands furnishes the same phenomenon.

Persons who have had the misfortune to come in contact

with victims of the terrible chlorodyne habit must have noticed that if other symptoms were wanting they can always tell when a dose has been recently taken by the peculiar, sickishly sweet odor which emanates from the whole person as well as from the breath. It is so strong it can be smelled two yards away, and pervades the whole atmosphere of the victim's room and her belongings. Other drugs there are, also, which betray their presence, in the same way, a few minutes after the dose is swallowed. Oil of turpentine gives to the excretions a faint odor of violet, and oil of myrtle affects them in the same way.

The hot-air bath of the Greeks was in all essential particulars very like our modern Turkish baths. Yet one luxury we enjoy, soap, which I am sure we would not exchange for their greater splendor. But we could with great advantage more frequently follow their custom of massaging with oil or ointment. This anointing greatly diminishes susceptibility to atmospheric changes, which in our variable climate is of vast importance. We are only just beginning to realize how much we can nourish as well as purify the body through the skin.

In the time of the Emperors the luxurious bath began in the hot air of the *Tepidarium*, where the body was frictioned with flour or soda and scraped with the *strigil*, a kind of flesh-brush. A hot-water bath in the *Caldarium* followed, and then a cold plunge in the *Frigidarium;* and finally the body was well rubbed down with oils and perfumes by the shampooer.

The public baths at Constantinople are open one day in the week for Turkish women and another for the Greek women. Ladies go attended by their own women, carrying such supplies of linen and toilet-accessories, as well as luncheon and apparatus to make coffee, that the occasion looks like a house-moving. A large vaulted room is surrounded on two sides with a double balcony. The lower one, about two or three feet above the marble floor, is di-

vided by curtains into compartments which are the private dressing-rooms. The upper balcony is open to all for the same purpose. After disrobing, white bath-gowns are donned, and, mounted on wooden pattens to keep the feet from the unbearably hot floor, the bathers enter the boiling-room and seat themselves in groups close to a stream of very hot water. Every woman is attended by one or two maids, who rub her with perfumed soap and pour hot water over her, using large metal bowls which they take with them for the purpose. "The perfumes of the East are not only countless in number, but of a strength almost overpowering to Western nerves. Literally, not only every flower but every fruit is pressed into the service of the perfumer." One drop of their *attar gul*—otto of roses—will scent for years the stuff on which it is poured. A whole box of these precious perfumes, as well as bottles of scented waters, is taken to the bath, and an English lady says, except the violets, which were exquisite, she preferred the bottles unopened.

The temperature of the boiling-room, which is filled with dense vapor soon after the bathing begins, is pretty high, and from it open smaller rooms still hotter; but the body accommodates itself so gratefully to the heat that the shock in these is not so great as on entering the first room. The servants have a quantity of queer-looking yellow gloves of varying degrees of roughness, and in the hot-room these are used to shampoo the bather, the soaping and rubbing being done with increased vigor. After this, cold water is dashed upon the bather, or she takes a dip in the cold swimming-pool; then she is wrapped in great sheet-like towels, frictioned till in a glow, enveloped in a bath-robe, and conducted to her alcove; where, with the curtains drawn aside so she can look out upon the chattering, laughing crowd, she reclines on a satin mattress, and smokes her narghilé or drinks coffee; while her maids comb and, if needed, dye her hair and proceed with all the mysteries of their intricate

make-up, staining eyelids and eyebrows with antimony or *Mesdjem*, and tinting and polishing the finger-nails.

The whole scene, as the large floor becomes covered with mattresses and reclining women for the after-bath repose, is picturesque to a degree. It is the principal social opportunity in a Turkish woman's life, and this glimpse of her in easy familiar intercourse gives strangers a most favorable impression of her native refinement.

Though the baths of China and Japan are a striking contrast in their simplicity to those of the Greeks and Romans, and even to those of modern Turkey, the principle is the same in all. Their great heat stimulates the pores of the skin to throw off in profuse sweat all the waste matters that otherwise linger sluggishly in the veins and glands to poison and depress, when they do not irritate, every organ of the body.

The Russian bath differs from the Turkish in being a vapor-bath, in principle the same as the primitive baths first described; while the Turkish begins with exposure to dry heat at a temperature of from 120° to 150° Fahr. The effect of both is much the same, and when many bathers gather at the same time in a Turkish bath the air becomes quickly charged with vapor. It is thought by some that the Turkish bath favors reduction of flesh and the Russian increases; but both have been used with equal benefit in curing obesity.

When taking a Turkish bath in this country, you don a loose cotton or cambric chemise of simplest form, and enveloped in an ample sheet enter the sudatorium where your attendant seats you comfortably in a reclining chair, binds a wet towel about your forehead, and gives you a glass of cold water. Your attendant carefully watches the effect of the heat, supplies more drinking water if needed, and leaves you for a longer or shorter time according to the response of the perspiratory glands. When the sweat starts freely from every pore, you go into a still hotter room and recline

on a marble couch, which stretches round the sides of the apartment. A fresh wet towel is bound about the brows, more water drunk, and you lie here till as wet as if dipped in the swimming pool, and altogether the sensation is delightfully soothing. You feel as if a lot of depressing, clogging products were being coaxed out of you. Sometimes there is a progression through several of these hot rooms, at increasing temperature up to 210° Fahr.; or, if you are alone, the temperature is raised in this second one, the attendant adjusting it according to the effect upon the bather.

After this you are taken to a marble cabinet, where, reclining on a marble couch, you are lathered and shampooed, while hot water is freely poured over you. The needle-spray—very delightful—follows, and after it, if you choose, two or three quick dips into the cold swimming-pool. Some women are too timid to venture upon this, and if there is weak action of the heart it is best not to; otherwise an enjoyable part of the bath is missed. After friction with Turkish towels, there is another shampoo with alcohol, if desired; and then the bather is enveloped in a fresh sheet and tucked up on a restful couch in the tepidarium for a half-hour's rest; and, if she wants it, has a cup of tea or coffee.

Could those good people who nurture a virtuous feeling of pride in their state of superior cleanliness produced by a regimen of daily cold baths and one warm soap-scrub per week, see, just once, the amount of dead cuticle and actual dirt that rolls away under the influence of the shampooer's kneading and lathering, they would be convinced of the makeshift character of such baths,—a mere sop to the idea of cleanliness.

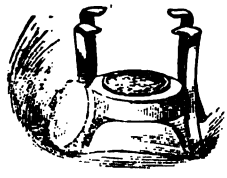
It is a great pity that the advantage of these baths is not more widely appreciated so that through generous and large patronage their price could be reduced; for, under existing circumstances they are quite beyond the reach of a large class of overworked people whose sedentary occupations

produce the very conditions which are most promptly alleviated by them. Very many, however, of this very class do spend hard-earned dollars for patent nerve-tonics, which would return to them a hundred-fold more benefit if they paid for baths instead.

An excellent substitute for the Turkish bath is found in the cabinet baths which are now made at prices varying from five to forty-five dollars. The cheaper ones are either collapsable or folding things that can be shut or folded and put out of the way on a closet shelf, while the more expensive wooden cabinets take up very little room, and are so easily adjusted that no attendant is required. They are used in New York by fastidious women who will not go to a public bath and who employ an experienced masseuse; thus obtaining all the luxury of a Turkish bath in their own homes. Their convenience in the home, where they could be regularly used by every member, and would be at hand for the emergencies of sudden illness, cannot be overestimated. And if once the value of such baths upon the general health were understood, there are few who would not contrive by some expedient to enjoy their benefits regularly.

The folding cabinet-baths shut up like a screen into a thickness of six inches, and the average size when open is thirty inches square by forty-two inches high. The framework is of strong wire, or of kiln-dried wood that has been subjected for many days to a temperature of 170°. The four sides are covered with rubber cloth stretched tautly over the frame just as the folds of a screen are covered; and for the best cabinets double-faced cloth is used, or else the frame is covered outside and in, so no cloth surface is exposed. If cloth having one side only faced with rubber is used, the rubber-covered surface should be turned toward the inside of the cabinet. The sides are hinged together with strips of the material used for covering them, extending the full length of the sides. To secure greater stability

when in use, hooks and staples are attached in the corners, above and below, by which each side is hooked to the sides adjoining. The top is covered with curtains of rubber cloth, which meet in the centre, have a circular opening where the head projects, and are fastened with metal buttons and sockets. These cabinets are quite simple and can be easily made at home. The accompanying illustration shows their construction clearly, as also the heater used with them. The bowl of the heater, which need not be more than three and a half inches in diameter by one and a half inches deep, is filled with asbestos, which is held in place by a wire netting



over the opening. This bowl is filled with alcohol, and when a match is touched to it, the temperature of the cabinet can quickly be raised to any desired degree. For vapor-baths, a shallow vessel filled with water (or medicated liquid, when medicated baths are desired) is placed over the flame. Sulphume is used for sulphur baths. A few cents' worth of alcohol will supply all the heat required for one bath.

The bather sits on a chair, beneath which the heater is placed, and the opening in the curtains which cover the top must be adjusted to the position of the seated person. A Turkish towel is wrapped around the throat, outside, shutting in the steam and preventing any inhalation of the

vapor. The face-steamer, which is made to go with these cabinets, is a very simple contrivance, like an exaggerated stove-pipe hat. It is made of rubber cloth, is provided with a breathing-tube, and is placed over the head, its brim resting on the top of the cabinet.

The simplest home-made contrivance for a vapor bath (but just as effective as the more elaborate cabinets) is to get a box large enough to enclose a person seated in a chair —about two and a half feet by four—and in height coming an inch or two above the shoulder. The front can be slanted from bottom to top—so as to make it square at top —and closed with folding-doors. Over the top, lids, hinged on the sides and cut out semi-circularly in the centre to fit the neck, shut down after the bather is seated. Wanting an alcohol burner, the vapor can be supplied by placing a pail of boiling water under the chair; and either renewing it, if necessary, or adopting the Irish physician's expedient of dropping red-hot irons into it.

No bath should ever be taken within two hours after eating. It increases the comfort and luxury of all baths if there is convenience for heating the towels used in drying.

I have endeavored to impress upon you how much even the temper and disposition may be affected by the retention in the body of wastes,—matter from which all good has been extracted and which as long as it is retained is undergoing chemical changes, which make it more and more a menace to health. Perfect nutrition cannot exist without perfect depuration. Man was not intended to be a sedentary animal, and his inactive habits lower his functions; the blood, from insufficient oxydation, being compelled to labor under a weight of impurities. Therefore, extraordinary means must be resorted to in order to restore its purity.

Very simple expedients can be adopted to secure the benefits of a vapor-bath when necessary to meet an emergency. When Dr. Barter first introduced his baths in Cork, the

medical fraternity showed no alacrity to recognize their great benefits; but here and there were converts who rejoiced in their success, and one of them relates how he was called to a case of croup. It was a lad of fifteen years, and after the family physician had worked over him for several hours, giving him deadly drugs and bleeding and blistering him, he told the parents that the boy could live but a few hours. His mother sent for the other doctor, who found the patient strangling for breath and almost unconscious. He was lifted upon a cane-seated chair over a pan of hot water in which red-hot irons were thrust, and enveloped in blankets. In twenty minutes he was in a dripping sweat; cold water was poured over him, and then he was wrapped in a blanket wrung out of hot water and put back in bed. The sweating continued for several hours, during which he drank cold water freely; then he was wrapped in a warm dry sheet, after which he sank into a restful slumber, from which he waked in three hours with every symptom of the disease overcome. The alternations of temperature from heat to cold are an important part, when judiciously applied, in the full therapeutic value of the Turkish or vapor baths.

Those who wish to gain flesh and those who need fatty matter but whose stomachs do not take kindly to its digestion derive great advantage from massaging with oil after the Turkish bath. For this purpose many oils and some compounded flesh- and skin-foods are used. Olive, cocoanut, cotton-seed, almond, and even cod-liver oils have their advocates. The last is pronounced so unequalled in results as to atone for its disagreeable effluvium. When applying it yourself pour a little into the hollow of the palm and rub it vigorously into the chest and bosom with a rotary upward movement. Rub the shoulders well, and carry it down the insides of the arms to the wrist, giving special attention to the bend. Knead the sides from the arm-pits to the waist with a rotary motion of the palm; the bend of

the hips, following down the insides of the legs to the knee-caps and the bend beneath them; and the abdomen, beginning on the right side and kneading upward, across, and down on the left. These are the parts which best assimilate fatty substances in massage treatment.

Almost more harm results from sea-bathing than good, because discretion is so generally left at home. Used rationally, it tends to quicken the general circulation and promote increased activity in all the organs of elimination. The early morning bath is only fitted for the extremely robust and vigorous. Mid-morning, or any time up to 12 o'clock M., is the best time. It is most injudicious to remain in very long; as, no matter how much it may be enjoyed, the protracted immersion prevents the necessary reaction and causes temporary congestion and stagnation of the liver and intestines, retarding their functional activity.

Those who have not the courage to plunge in immediately can derive little benefit from the bath and are often injured by it. Every fresh breaker is a repetition of the first shock, and their impact should not be received upon the head or the stomach. Always turn the side to the incoming wave. The temperature of the water and the reactive strength of the constitution must determine the length of the bath. Constant activity is necessary while in the water. The timorous-clinging to a rope in shallow water is inviting suffering, and it is suicidal to stay in till the primary glow is replaced by a feeling of chilliness. Only good swimmers should remain in the water as long as fifteen minutes; others in good health may stay from five to six minutes; but weak and feeble ones should come out in three or four minutes; and the delicate invalid should not take more than two or three dips.

Those who are uncertain of the effect of sea-bathing can with advantage consider themselves invalids, too, the first time; and take no more than three or four dips. Irritation

of the skin, from its increased activity and also the action of the salts, is sometimes a troublesome result of sea-bathing; and under such conditions it is injudicious to continue the practice, as it might produce a very annoying and obstinate eruption.

The public mind is in rather a foggy state concerning the therapeutic value of electric baths; but so great improvements are being made in the application of electricity, that this uncertainty must soon yield before the tremendous flood of data that experience is accumulating on this subject. The baths must, however, under anything like present conditions of general information, require skilled application in order to bestow their full benefit. Electricity is too subtle an agent to be trusted to other hands. Of its marvellous revivifying powers, there can be no question. Rheumatism, sciatica, lumbago, neuralgia, and most disorders of the nerves are greatly benefited and usually cured by these baths; and the exhausted brain-worker should experience a feeling of great mental buoyancy and exhilaration after a single bath.

I must add here the formulæ for two bath-soaps which are excellent for their respective uses. The first is highly commended by the French Royal Academy of Medicine:

BAZIN'S PÂTE AXÉRASIVE.

Powder of bitter almonds	8 ounces
Oil of bitter almonds	12 ounces
Green soap	8 ounces
Spermaceti	4 ounces
Soap powder	4 ounces
Cinnabar	2 drachms
Essence of rose	1 drachm

Melt the soap, spermaceti, and oil in a *bain-marie* as directed for cold-creams, add the powder, and beat the whole together in a marble mortar or earthen bowl with a silver spoon. Add the perfume last of all. Violet or any preferred odor can be substituted at pleasure.

For removing trifling stains from the skin or nails and rubbing down callosities on the hands or feet this erasive soap is fine:

PONCINE SOAP.

White soft-soap.....	½ pound
Olive-oil.	3 ounces
Powdered pumice-stone.....	4 ounces
Essence of violet.....	1 drachm

Melt the first two together, then stir in the pumice-stone, for which any fine silicious sand may be substituted. Mould into cakes or balls and set on a tray or board to harden and dry. Remember that all soaps improve with age.

Should there be any difficulty in obtaining some of the herbs called for do not be discouraged. Omit one when necessary, but continue searching and inquiring for it. My experience has been that a demand for a thing generally finds someone with sufficient commercial enterprise to try to satisfy it. Except where indicated, in the case of formulæ centuries old which have been recorded as a matter of curiosity, all the formulæ herein given have been and are being compounded all the time. The French make so much greater use of perfumes and herbs than we do that some things are in common demand there that are seldom asked for here. When the demand arises, our chemists will probably prove themselves equal to the occasion offered them to increase their trade.

CHAPTER VIII.

WOMAN'S CROWNING GLORY.

"Her cap of velvet could not hold
The tresses of her hair of gold,
That flowed and floated like the stream,
And fell in masses down her neck."

"Fair tresses man's imperial race ensnare,
And beauty draws us with a single hair."

WOMAN'S crown of golden or ebon tresses has been the theme of poet and subject of painter since the one wrote sonnets or odes and the other tried to limn in imperishable pigments the beauty that had taken his fancy captive. And it is impossible for the cultivated taste to form a conception of a beautiful woman whose face is not framed and fittingly set under this natural crown.

Really beautiful hair—and its beauty may be of color or texture—possesses a witchery all its own, and is quite capable of redeeming many a plain face, and even deluding us into the belief that it has a certain attraction. While a luxuriously abundant *chevelure* is usually an enviable endowment, yet quantity alone is by no means so important as texture and color, or rather light; a something that glints and changes and glows like a thing of life. Even ebon-black tresses may possess this charm of changing shades, like the bloom on velvet, if they have the necessary texture and suppleness.

As mankind advanced from savagery, and with each step

in his development became more sensitive to things beautiful, the hair took rank as something more than a mere covering for the scalp and a protection from the weather.

In biblical times it was a disgrace to be bald, and the term "baldhead" was one of reproach. Among the ancient Eastern nations, men as well as women wore long hair, and carried its curling and dressing and the use of aromatic pomatums upon it to great extremes. Among the Gauls, too, we find both sexes esteemed long hair. When conquered by Julius Cæsar they were compelled to cut their hair in token of submission.

Cæsar, being bald himself, must have thoroughly appreciated the penalty he inflicted; for it is related that of all the honors bestowed upon him by Rome, he valued most highly the privilege of wearing always his crown of laurel which concealed his baldness.

The ancient Britons were extremely proud of their abundant, flowing blonde locks, and to increase their brightness they used a mixture of lime, vegetable ash, and tallow. They shaved the entire face except the upper lip, where they allowed a moustache of most inconvenient length to grow. The greatest disgrace one of their women could suffer was to have her hair cut off,—the penalty inflicted upon an unfaithful wife.

Wherever history chronicles the custom of men's wearing long hair, we find it carried, before the passing of the fashion, to so great extremes as to mark a period of decadence. A Norman bishop acquired great honor and distinction by preaching, in 1104, at the court of Henry I. against the folly and vanity of the long, curled, and perfumed locks affected by the *élégants* of that day; and he so moved the king that he and his courtiers submitted to be shorn of their flowing locks by the zealous prelate himself.

The enthusiasm was, however, only temporary, and the fashion of long curls had so strong a hold that it was re-

vived and continued till 1129. At that time another brief reformation resulted from a knight's dream, in which he believed himself overcome by an enemy who smothered him in his luxuriant curls. But once more man's vanity was stronger than his prudence, and he was not again inveigled into relinquishing his effeminate locks till wigs came into vogue and gave dignity to all ranks.

The Arabs value their hair so highly that they sacrifice it after every visit to Mecca, the ceremony being the solemn concluding act of the pilgrimage. In the same spirit, the Levites who assisted the priests in the discharge of duties, and kept guard round the Tabernacle and, later, about the Temple, cut their hair when initiated into office; and the priestly tonsure of the Roman Church is a survival of this custom. In Greece also the shaving of the hair was a sacrificial act, and sometimes done on the graves of loved ones, the "mourning-locks" being left upon the grave.

The refined taste of the Greeks recognized the hair as one of Nature's most attractive endowments, and they paid much attention to its care and arrangement. Position in life, from serfdom to highest estate, was indicated by the length of the hair. Even in Sparta, where ornament of all description was severely restrained, clan, rank, and age could be recognized by the cut of the hair.

In Athens, curly hair was much esteemed; and in that long-ago, the hairdressers made countless experiments and taxed their ingenuity to devise ways and means by which to produce artificially a lasting curl. Blonde locks, too, were greatly coveted and admired; and, another proof that there is nothing new under the sun, bleaching and dyeing to counterfeit golden locks was a profitable business then.

In King Solomon's days of splendor and glory, his horse-guards strewed their heads with gold-dust till they glittered in the sun; and in Rome's palmy days we find her belles and matrons giving a golden sheen to their well-cared-for tresses in the same way.

While the condition of the hair is largely a matter of physical health, yet certain characteristics are the result of fastidious care and cultivation. No uncared-for hair can be beautiful, and in nothing is personal neglect more plainly manifested. Unkempt, "touselly" hair, powdered with dandruff, is as repulsive a sight as nails in mourning; and, alas! afflicts our eyes much more frequently. The reason being, I suppose, not so much because of the longer time required to give the hair proper care, as that we cannot "see oursel's as others see us"; and there is an unfortunate amount of ignorance on the subject of just what regimen and treatment constitutes proper care of the hair.

That this should be so is not very surprising when you realize what contradictory rules are from time to time set forth with all the force of experience and learned authority. The writers of these misleading directions fail utterly to realize, and make allowance for, the constitutional peculiarities of human beings which make it necessary that rules should be accepted only as general guides, to be adapted and modified according to individual idiosyncrasies.

It would be impossible to estimate how many fine heads of hair have been sacrificed to that destroying rake, the wire hair-brush; and, indeed, many, many locks have fallen victims to over-brushing—even with bristle brushes—since the unfortunate dictum went forth that a hundred strokes of the brush, night and morning, was a sovereign remedy for scanty, dry, or falling hair. Did you ever take a rake and rake the young spring grass on the lawn, and did you ever notice at the time how impossible it was to hold the rake so carefully as to avoid pulling up many a tender green shoot of the young grass with the top litter? Well, much of the brushing of the hair we see done has the same effect; and especially when a stiff, penetrating brush is used, and with each *blow* it is brought down through the whole length of the hair.

A brush should never be touched to the hair with other

than a gentle, caressing motion; its first office is that of a polisher, to spread the natural oil exuding from the scalp over the hair, and give it a satiny gloss; and, secondarily, as a cleaner, to wipe off the surface soil, that is, the dust and dirt manifold of the polluted atmosphere in which it is the fate of a large part of mankind to pass their lives. The brush cannot penetrate to the scalp, through a heavy mass of hair, to remove any accumulation of dirt and dandruff there without carrying away with it very much of the crop of hair also; while, at the same time, if stiff enough to perform this office, it impairs the delicacy and integrity of the epidermis. This barbarous (no pun intended) use of the hair-brush should with that of the fine-tooth comb be relegated to "innocuous desuetude."

To understand the *rationale* of what constitutes a hygienic regimen for the hair a brief description of its structure and the conditions that favor growth is necessary. If there were less ignorance upon the subject there would be fewer deplorable mistakes in its treatment; and women would be more chary of squandering money on dyes, bleaches, and tonic nostrums; the use of which in countless cases is the forerunner of a long train of evils.

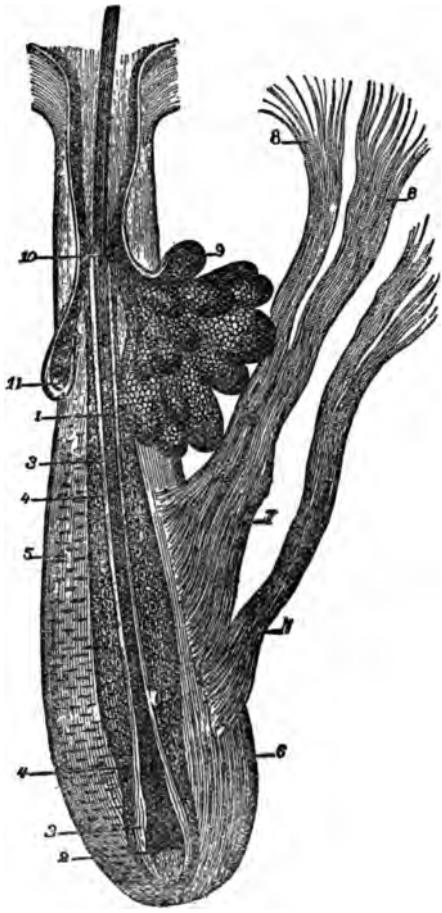
Chemically speaking, the hair is composed of the same elements which enter into the structure of our nails, as also into that of the feathers and claws of birds, and the horns and hoofs of animals. It is a modification of the growth of the cuticle, or epidermis, and formed in minute tube-like depressions, called follicles, which are most cunningly packed in among the intricate coils of the sebaceous and sudoriparous, or sweat, glands in the sub-cutaneous tissues. Like the structure of the skin, that of the hairs also is cellular. It is a popular error that every hair is a tube, hence bleeds at the end when broken or split and should be singed.

The hair-papillæ, resting in these follicles, are "made up of undeveloped, nucleated connective-tissue cells commingled with a few fibres." They are highly vascular, hav-

ing a fine capillary network of blood-vessels in the interstices, supplying them with nutriment; and two arteries enter every papilla near its summit and subdivide into minute capillaries, making their exit from the papilla as veins. From these wonderfully intricate microscopic ingress the hairs receive their nourishment and all the elements of their growth. The pith of every hair is formed of round, packed cells while the outer portion is made up of thin, flattened elongated cells which overlap one another like the scales on a fish. Technically, we call the projecting part of the hair its shaft while its root is concealed and protected by the follicle. The root terminates in a bulb, a soft pulpy knob resting on the papilla which grasps it with clinging cells.

The growth of the hair is a continual pushing upwards of the constantly forming cells from the soft bulbs of the hair, and they carry with them the granules of coloring matter, which are furnished by the very tip of the papilla. In conditions of depressed physical health the formative process is delayed, may even become quite torpid, and the languid, weakened cells loosen their grasp upon each other: then a stricture in the follicle separates them and the exterior shaft falls. Nothing but atrophy of the papillæ, however, terminates the growth of hair-cells: another hair will be put forth, only, in sympathy with the lowered vitality, it may be weaker, it may lose color, and its growth will be slower.

It is upon the shape of the shaft of the hair that its ability to curl depends. In a healthy state every hair has an acutely-sharp, absolutely typical, point. One so fine, so perfect, that it is said it puts to the blush the sharpest point that man has ever been able to make. If through disease the point of the hair becomes broken and split, it should be cut off, for without this precaution the break will extend farther up the shaft. The *medulla*, or pith, retains the perfect cellular character alluded to above till it approaches the



HAIR-FOLLICLE; GREATLY MAGNIFIED.

1. Hair root; 2, papilla; 3, 4, 5, 6, three layers of membrane, a depression from the *rete mucosum*, varying slightly in structure, each from the other, and forming the lining of the hair-follicle; 7, 8, erector muscles; 9, compound sebaceous gland; 10, hair-shaft; 11, simple sebaceous gland.

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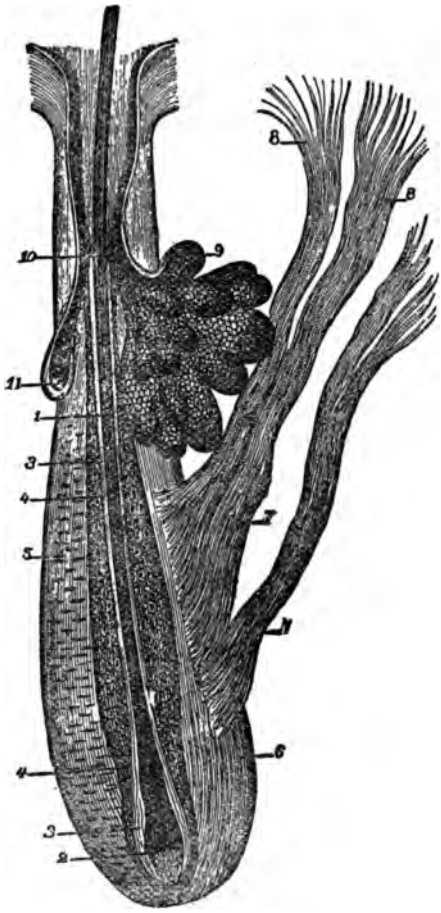


HAIR-FOLLICLE; GREATLY MAGNIFIED.

1. Hair root; 2, papilla; 3, 4, 5, 6, three layers of membrane, a depression from the *rete mucosum*, varying slightly in structure, each from the other, and forming the lining of the hair-follicle; 7, 8, erector muscles; 9, compound sebaceous gland; 10, hair-shaft; 11, simple sebaceous gland.

Concerning the color of the hair, the variation is due to the different proportions of the chemicals which form the coloring pigment. And it is this fact which accounts for the different shades of color which the use of the same hair dye will often—and usually does—cause.

Blonde hair is the richest in oxygen and sulphur, but has less hydrogen and carbon than hair of any other color.

Brown hair has the largest proportion of carbon, and a smaller ratio of hydrogen, oxygen, and sulphur.

Red locks have some iron, a large quantity of sulphur, and some reddish oil.

Black hair contains a larger proportion, comparatively, of oxygen and sulphur, and a smaller amount of hydrogen and carbon.

White hair contains the phosphate of magnesia and a whitish oil besides the sulphate of alumina; and, in the aged, there is also a large amount of phosphate of lime.

The bulk of the hair is composed of a nitrogenous or animal substance, called *keratin*, and it is soluble in alkalies, with the formation of ammonia, and strong sulphuric acid. It is this property which yields so bad an odor when hair is burned; and also exposes it to destruction from the chemical action of many of the minerals employed in dyes and bleaches. Attached to the side of the hair-follicle are little muscles which run diagonally upward from its lower portion. These are the *erectores pili*, or erector muscles. It is the contraction of these through the action of cold or fear that causes "goose-flesh" (*cutis anserina*), and, on top of the head, makes the hair "to stand on end." These curious muscles are more strongly developed in some of the brutes than in man, of which fact the cat and dog frequently give us striking proof.

A single hair is said to bear the strain and weight of four ounces,—this, of course, is the average; some will bear more and some less,—and there are from 80,000 to 120,000 hairs on an average head. The hair grows at the rate of

from five to seven inches in a year; and, being unfavorably affected by the cold, its growth is more rapid in summer than in the winter.

It is a mistake to suppose that the hair is deciduous, and shed annually, as birds molt their feathers, and some of the brute creation change their coats. Human hair is perennial, and unless it is severed from the follicle by violence, or its nourishment is deranged from physical weakness, it will retain its vigor and integrity till late in life. There is, of course, a slight shedding going on all the time,—fulfilling the law of the survival of the fittest,—but this is not surprising when we know how delicate is its structure.

It has been remarked that California women have exceedingly beautiful hair, abundant, glossy, and supple; and this is easily accounted for by reason of the mild and favorable climate, severe cold being inimical to the growth and health of the hair. Although the head needs protection from the elements, it should not be covered by weighty, constricting, air-tight structures, which are in reality "sweat-boxes," and very injurious to the hair. In favorable weather sun baths are excellent for the hair, and the more women go bareheaded in summer the better for their "crown of glory."

Coincident with the rage for over-brushing there has reigned a mania for over-shampooing, on the principle, I suppose, that if a thing were good you couldn't have too much of it. But the one has been as fatal to fine heads of hair as the other; and both have, as over-irritants, much to answer for.

The frequency of shampooing must be regulated by the character of the hair, and the sort of atmosphere to which it is exposed, which varies, naturally, according to occupation and states of the weather. When the frolic wind is blowing at sixty miles an hour, and in one fell swoop hurls your allotted peck of dirt upon your head, the resulting condition is such as would not be paralleled in an ordinary

month of living. Except for some such unusual conditions, not even the most oily heads of hair should be shampooed oftener than once in two weeks. Usually once a month is quite often enough, and in the case of very dry hair even a longer interval—say six weeks—is a good rule.

In every case where there is a tendency to baldness and great loss of hair, shampooing should be omitted except when cleanliness absolutely demands it, for you deprive it of its natural oil and fairly wash the life away. The experience of men in this respect ought to be an object-lesson to women, for the convenience of their short hair has made them always ready victims of the shampoo habit; which, together with their other baleful habit of keeping their hats on, accounts for the very high average of early cases of baldness and thin hair among men in civilized life.

There is no better shampoo for the hair than an egg, well-beaten with about an ounce of water, and rubbed thoroughly into the scalp. It is not merely a detergent, cleansing the scalp and hair of the dirt, but is tonic in its effect and strengthens the scalp. The yolk contains natural food for the hair, iron and sulphur; while the white, being a mild alkali, finds its congenial mate in the oil from the sebaceous glands, and they mingle in a saponaceous lather. It should be thoroughly massaged into the scalp with a rotary motion, beginning in front over the forehead and going back to the crown, then forward to the temples, and back and forth, till the fingers of the two hands meet at the nape of the neck.

It should not be a harsh motion nor pull the hair in the least. The palmer surfaces of the nail phalanges of the fingers must press the scalp firmly but gently so that you will feel it move under them. This massage restores elasticity and tone to the scalp, and stimulates both it and the hair-follicles remarkably.

The hair must be thoroughly rinsed, first in warm water, then—if preferred—in cold, to secure reaction. If for this

the head can be held under running water, or sprayed with a douche, so much the better. Of course, long hair must be gathered up in loose locks or braids and well lathered and rubbed between the palms, before the rinsing begins. Wipe the hair as dry as possible in warm towels. In warm weather it is a simple operation to finish the task in the open air and sunlight, but in winter it is often necessary to hold the head in a current of warm air and to fan it in order to facilitate the drying.

Finish the operation with a dry massage, and when every particle of moisture has evaporated, if the tendency of the scalp is to dryness, rub in a little olive-oil, or any simple pomatum of whose purity and freshness there is not the slightest suspicion. Exceeding nicety must be observed concerning this matter, for rancid oil acts as a corrosive irritant and will itself cause excessive dandruff. Its continued use will induce serious scalp diseases.

An excellent French pomatum which stimulates the follicles and papillæ and will therefore encourage the growth of the hair and arrest its falling is made by this formula:

VASELINE POMATUM.

White vaseline.....	3 ounces
Castor oil (cold drawn)....	1½ ounces
Gallic acid.....	1¾ drachms
Oil of lavender.....	30 drops

Vaseline is one of the best oleaginous substances which can be applied to the scalp and possesses the advantage over animal grease of never growing rancid. It is so penetrating in character that it really goes to the root where it is needed, and I have known the careful and regular use of it alone to arrest falling hair in a few weeks. Of course it is troublesome to apply, but no more so than any oil; for it is well understood in these days that it is to the scalp alone that these substances must be applied, and every effort must be made to keep them from the hair itself.

I do not understand the prejudice existing in some quarters against the use of cosmoline, vaseline, and other petroleum products upon the hair. There lie before me now the dictums of several so-called skin and hair specialists who pronounce against their use in unqualified terms, but that their prejudice is based upon ignorance is proved by facts. The French, who are past masters in all cosmetic arts, are making extensive use of these substances and with the most gratifying success. The following is also very nourishing:

ROSEMARY UNGUENT.

Oil of rosemary.....	1 ounce
Oil of almonds.....	3 ounces
Oil of mace.....	35 drops

Remember always that adding grease of any sort to oily hair is like deluging over-watered fields, and jeopardizes the integrity of the roots. When oil is required, the liquid substances are more congenial to the scalp than the solid ones. "Hard pomatum," which contains wax, is most injurious of all, "an absolute absurdity and hair-poison," because clogging and actually sealing up the pores of the scalp. The bland oils, like olive, cocoa-nut, almond, and behen,—*Cucubalus behen*,—are, as a rule, the best basis; while the addition of oil of rosemary or oil of thyme—the origanum of the shops—will impart stimulating properties beneficial to both scalp and hair-follicle.

An excellent shampoo is made of a decoction of quillai bark, a saponaceous plant,—*Quillaya saponaria*,—native of Chili; and the Chilian women are said to owe their abundant and beautiful hair to its frequent use. A small piece of the bark when agitated in hot or tepid water yields a fine lather. An English formula which I have not tried, but which would agree with oily hair and assist in correcting unpleasantly profuse perspiration, has a well-beaten egg, a spoonful of powdered borax, half as much violet ammonia, "and as much subcarbonte of potash as will lie on a three-

penny bit," beaten all together in one quart of warm water. Wash the hair thoroughly in it, using the rotary massage movements as described above, and finish the process in the same way.

The following is also a good shampoo for oily hair:

SHAMPOO LIQUID.

Bay rum	2	quarts
Alcohol	1	pint
Water	1	pint
Tincture of cantharides	1	ounce
Carbonate of ammonia	½	ounce
Carbonate of potash	1	ounce

Dissolve the carbonates in the water; mix the other ingredients, and add all together, agitating thoroughly. Use from flask or bottle with a drop-stopper, so that you can sprinkle the lotion thoroughly over the whole head. Part the hair with the fingers of one hand while you sprinkle with the other; in this way you will be sure to wet the scalp as well as the hair. Massage as before, and let the liquid dry into the hair and scalp.

A simple shampoo liquid which is always available, and is useful when there is an excessive accumulation of atmospheric dirt, is to melt a cake of white Castile soap in a quart of boiling water. It makes a simple and mild soft-soap or saponaceous jelly, and can be kept in convenient wide-mouthed jars. When shampooing the hair, wet it first with warm water, then take about two tablespoonfuls of the soft-soap with a saltspoonful of soda and rub it thoroughly over the hair, being sure to reach the scalp, and gather the long ends of hair up on the crown so they can be well lathered also. Massage before rinsing and while rinsing. Several waters will be required, and the last, of cold water, must not be so cold as to shock. And in this connection the caution should be given that daily shower-baths on the head are an irritant and often very injurious, causing the

solved. While the hair is still moist it must be loosely dressed as desired. The effect comes as it dries. Another method is to moisten the hair with strong rosemary-water, black tea, or aromatic vinegar, in which ten or twelve grains of the carbonate of potash to a half-pint of the tonic have been dissolved. Brush this in, and dress the hair before it dries, as directed above.

The French furriers and felt-manufacturers have a method called "*sécrétage*" for waving hair, a modified form of which is sometimes applied to living human hair, but the process is extremely dangerous and I record it here as much for the purpose of warning against it as to gratify curiosity. Cooley describes it as follows:

"The hair is moistened for rather more than one half its length with the *sécrétage* liquid, care being taken that neither the liquid, nor the hair, until it has been *subsequently washed, touches the skin.* The operation is conducted before a fire, or in a current of warm air, so that the hair may dry as quickly as possible. The moistened hair is loosely adjusted into the desired positions, or into one favorable for its contraction, or, when partly dry, it is 'put up' in greased curl-papers. In a few hours, or sooner, the hair is washed with tepid water (without soap), dried, and slightly oiled. On being now gently combed and brushed, it generally shrinks up into small crisped or wavy locks; and it will generally retain this property for two or three weeks, or even much longer."

The danger in the operation is the corrosive character of the *sécrétage* liquid which is composed of one drachm of quicksilver dissolved in two ounces of *aquafortis* (nitric acid). Before use it is diluted with half its volume of water. It has been applied to vigorous hair without immediately harmful results; but there are instances where it has produced most unpleasant and disastrous consequences; and it can never be considered as other than an extremely hazardous operation.

There are many simple bandolines and mucilaginous fluids which will aid in keeping the hair in curl; and though their constant use is deprecated as tending to cause a deterioration in the structure of the hair, when used occasionally they are harmless; and in certain states of the atmosphere they may be said to aid greatly in preserving a woman's appearance and consequently her peace of mind.

GELÉE COSMÉTIQUE.

Carrageen moss	½	ounce
Eau de Cologne	1	pint
Extract of millefleur	1	ounce
Elder-flower water (or plain distilled)	1	pint

The moss is soaked overnight in the water, heated to dissolve it, then strained and perfumed. It can be tinted with liquid carmine or tincture of saffron; and is said to be quite efficacious. The hair should be moistened with it before rolling on kid-covered curlers.

BANDOLINE AUX AMANDES.

Tragacanth	¾	ounce
Rose-water	1	pint
Oil of almonds	½	drachm

Crush the tragacanth and put it in the rose-water; let it stand in a warm place, stirring occasionally, till the gum is swollen and softened; strain it twice,—through a coarse cloth, and then a fine one; and finish by adding the almond oil and a little carmine or saffron to tint it.

LAVENDER BANDOLINE.

Gum arabic	1	ounce
Coffee sugar	½	ounce
Spirits of wine	2	ounces
Lavender-water (Mitcham)	6	ounces
Bichloride of mercury	6	grains
Sal-ammoniac	6	grains

Dissolve the last two in the spirits; pour a half-pint of pure hot water over the gum arabic and sugar; agitate

occasionally; when cold unite with the alcohol and add the lavender-water.

RONDELETIA BANDOLINE.

Quince seeds	1½ drachms
Water (hot)	½ pint
Cologne water	½ ounce
Oil of cloves	6 drops
Oil of lavender	6 drops

Soak the seeds in the hot water for several hours; strain and add to the resulting mucilage the cologne with which the perfumed oils have previously been mingled.

VIOLET CURLING-FLUID.

Carbonate of potash	1¼ drachms
Powdered cochineal	½ drachm
Ammonia-water	1 drachm
Extract of violet	4 drachms
Glycerine	2 ounces
Rectified spirits	1½ ounces
Distilled- or violet-water	1 pint

Let mixture digest, with frequent stirring, for one week, then filter. If the hair be moistened with this fluid when dressing it, the effect will be to wave it slightly all over the head. A Greek fillet bound about the head while the hair is drying will assist in this; and, if the front hair is short, it should be encouraged to dry in a rumpled mass. When dry it will comb out into a graceful and becoming fluff, more artistic than the regular curls of the crimping-iron or the hair-curler. Unless exposed to extreme dampness it should retain its crispness for some days. If the regular curls are desired the hair can be moistened with the fluid and rolled on *bigoudis*—the kid-covered hair-curlers—while making the rest of the toilet. Most hair would dry in a half-hour; none should take longer than an hour. Instead of using the curling fluid, the front hair can be washed with tincture of green soap, and after rinsing left to dry in a

rumpled mass. The effect, at first, will be similar though not quite so curly, and its lasting or staying quality will be more easily affected by the hygroscopic nature of the hair.

Here is one more curling fluid, better adapted to very dry hair than the last formula:

PORTUGAL CURLING-FLUID.

Gum-arabic mucilage	1½ ounces
Glycerine	1½ ounces
Carbonate of potash	1½ ounces
Rose-water	2 pints
Portugal extract	6 ounces

Dissolve the carbonate in the rose-water, add the glycerine to the extract, agitate thoroughly, then add the mucilage; after further agitation, put all ingredients together, and let stand to digest for a week.

The hair is most sympathetically affected by the general health, and in many cases serves as an accurate barometer of the physical and mental condition. This is not surprising when we know how dependent its marvellous organization is upon the absolutely healthful circulation of the scalp and the tone of its nerves. Its relations are so close with the most sensitive and highly developed organ of the body, that, naturally, the depression of bodily illness, mental trouble, worry and anxiety, over-study, all nervous tension, and everything that disturbs the circulation, checks the nutrition of the hair-roots, with the result that the hair immediately shows the depressed physical vitality.

This is the reason that acute illness is so often followed by loss of hair; and sometimes, even in the young, by a change in its color. All strictures about the head disturb the circulation, and tight dressing of the hair which strains it at the roots, and twists or tortures it, is injurious. As a rule, it is the front hair and that on the crown which first feels the effect of arrested nutrition, and begins to fall; and, often, the treatment the hair receives induces the lowered vitality

of these parts. The dragging of the hair back from the forehead, and especially piling it up over heating cushions, are frequent causes of the trouble; and the central parting often has all the life scrubbed, dried, and beaten out of it. The changing and shifting of the parting from time to time is a good precaution against its thinning to a broad, unsightly line; and it is well also to change the style of dressing the hair occasionally, so that the same part of the head shall not bear the weight of the coiled or braided hair constantly.

It is an excellent habit for women and girls to give their hair sun and air baths as frequently as possible, letting the hair flow unconfined over the shoulders.

A prejudice which has lived its time is the popular error that keeping the hair short in childhood will insure a fine head of hair for the grown woman. If there had ever been any foundation for this error, why are early baldness and thin, scanty locks so much more prevalent among men than among women? Experience proves that frequent cutting of the hair, especially with a robust child, causes it to grow coarse and wiry and to lose its brilliancy. Some of the most beautiful heads of hair I have seen enjoyed by middle-aged and elderly women were said never to have known the shears except for the traditional clipping of the tips at regular intervals.

The old superstition of performing this rite during the first quarter of the moon has at least the merit of fixing a periodical date so that it shall not be overlooked; and there is also a right and a wrong way of doing even this simple thing. Hair-cutting to be effective must be done on scientific principles. It must be cut where it is weakest and thinnest, about the crown of the head, and along the line of partings. In clipping, unless the hair is falling very fast, indicating acute alopecia, the pointed, intact hairs should not be trimmed till they reach the maximum length. In order to accomplish anything like a thorough clipping of

the split ends it is necessary to braid the long hair and then draw the braids through the fingers upward, so as to ruffle up the short hairs. It is easy thus to distinguish between the blunt or split ends and the pointed ones. But the task can be much more effectually done by a second person than by oneself, and it is therefore best to have recourse to the hairdresser when possible.

It will do much to insure beautiful hair through life if its hygienic care begins with the life of the infant. The scalp of the new-born babe is covered with a fatty matter—the *vernix caseosa*—and if care is not exercised in its prompt removal a most unpleasant and unsightly condition of inflammation and scabbiness will result. Part of the first care given to the babe should be to anoint the whole head with fresh, sweet olive-oil or that of sweet-almonds. After a few hours it should be washed with warm water and well lathered with soap-bark or Castile soap. The little scalp must be handled with utmost gentleness, and neither brush, comb, nor harsh towel touched to it, as they might inflict serious damage to the hair-follicles. This operation must be repeated daily for several weeks, even after the *vernix caseosa* has been entirely removed. It will do much to encourage the permanent strength and health of the hair-forming structure.

After the first ten days, as soon as the scalp begins to look firm and strong and does not redden violently under gentle manipulation, massage with the finger-tips may be given twice or thrice daily. The fingers impart vital warmth and electricity which tend greatly to stimulate the healthful secretions of all the glands. So valuable is this treatment for both young and old that when properly understood and appreciated we shall see fewer bald-heads and a vastly higher average of beautifully abundant tresses than we do now. Massage is to the scalp what physical culture is to the body, and not only promotes the growth of the hair by exciting to increased activity the minute glands

which contribute to the cellular structure, but also prevents the relaxing of the muscular layers forming the scalp, toning them up to their duty; and by increasing the circulation prevents atrophy of the papilla and the consequent turning of the hair gray.

When the babe is three months old a weekly shampooing and oiling will be sufficient; but, even if the hair has come in quite thick, for the first year no comb and only the softest brush should be used upon its head. This treatment will prevent all the family of eczematous eruptions to which some people seem to consider an infant's scalp liable; the inception of which, however, is almost always due to carelessness in removing the *vernix caseosa* and consequent irritation of the scalp.

Brushes and combs should be selected with extreme care. Economy is out of place here, for cheap brushes are usually poor ones with harsh, slivery bristles. The expense should be in the bristles and not in the back, unless you can afford it in both. Stiffer bristles will be required for one head of hair than for another; but, remembering the caution already given with regard to the proper use of the brush, select one adapted to the service required. The clusters of bristles should be made up in slightly uneven lengths but set evenly in the brush; in this way they will best penetrate the hair and thus perform their cleansing, polishing office. Brushes must be washed in borax-softened water, and it will stiffen the bristles if the last rinsing-water be a weak solution of alum, merely shaking the brush afterwards and letting it dry. The best combs are ivory or shell, but the indispensable qualities of all should be *smoothness* and regularity of well-rounded teeth. One split or rough tooth can do a great deal of damage to the hair by splitting and breaking it, as well as inflict some pain. Shell or celluloid hairpins should be used to hold the hair in place.

Personal experience with a wire brush enables me to speak authoritatively when I condemn its use and pro-

nounce it most injurious to any scalp. You might almost as well scratch the scalp with pins!

There is an art also in using the comb, and the manner in which some mothers yank one through the tangled locks of their offspring ought to bring down upon them a rebuke from The Society for the Prevention of Cruelty to Children. It is not only cruel to the child but it is most injurious to the hair. The brush should not be used till all snarls have been gently disentangled with the comb, aided sometimes by the fingers. If you begin combing below the snarl, even the most wind-tossed, obstinate tangles will yield easily. Sometimes it is necessary to work both above and below alternately, but always the task is more easily accomplished if a little common sense and patience are employed instead of brute strength.

Though dandruff is not originally a disease, it may easily become the predisposing cause for many disorders of the scalp, just as neglect to keep the body clean brings on a whole train of evils. A seventeenth-century writer conveys this warning concerning it: "This humor suffered overlong to reigne on the head, destroyeth and corrupteth the roots of the haires, making them to fall off in great plenty, and specially in kembing." And the worthy doctor "counselled" the following heroic treatment: "To wash and scoure the head cleane with good lye wherein let be steeped in a linnen bag, of Annis seed, Commin, dried Rosemary, Fenegreke [fenugreek, a plant of the genus Trigunella], and rinds of Pomegranates, of each like much."

Seborrhœa appears as an exaggerated case of dandruff, but is a functional disease of the sebaceous glands which frōm irritation are overexcited, and their morbid secretions accumulate in scales upon the scalp. If these crusts have become hardened they should be soaked in olive oil for several hours before shampooing the scalp with either an egg-shampoo or with the quillia bark. If the scalp is quite sensitive the yolks of two eggs beaten up in a half-pint of

lime-water will have an excellent effect. Should the crusts reform with rapidity and obstinacy, something stronger will be needed, and this may be beneficial:

SHAMPOO LOTION.

Green soap..... 2 ounces
Eau de Cologne..... 2 ounces

Mix and agitate till thoroughly incorporated; let stand twenty-four hours, occasionally agitating, then strain. To be used as directed for other shampoos, massaging the scalp thoroughly and rinsing the hair in several warm waters; a cold douche at the last will help to contract the over-distended sebaceous glands.

If the case be chronic and of long standing it may be necessary to resort to the use of healing unguents acting directly upon the glands. For this purpose oxide of zinc ointment—formula for which is given in the next chapter—should be applied; and in the order mentioned, according to the severity of the case, the following are suggested as specifics: tannic-acid ointment; compound iodine ointment; and red iodide of mercury ointment. This condition, however, indicates some physical disorder, perhaps even constitutional, and internal remedies should also be taken, so it is best to consult a physician. I give the hint only that the general symptoms indicate a need of the system for iron, the hypophosphites, and cod-liver oil. Some of the extracts of malt and iron have an excellent effect.

The opposite condition, a deficiency of the sebaceous secretions, called *asteatodes*, is usually amenable to hygienic treatment, and readily corrected by the use of stimulating lotions and oils and regular massage. Another disease closely related to *asteatodes* is *narcosis folliculorum*, a chronic inflammation of the hair-follicles which interferes with the normal secretions and dries them up. The scalp being very dry there is a constant desquamation which gives the hair a powdery look resembling dandruff, and vigorous brush-

ing brings with it handfuls of hair. Often there are clusters of gray hairs. Too frequent shampooing of the hair with strong soaps; overuse of borax, soda, and ammonia; unhygienic dressing of the hair; heating the scalp with cushions or a weight of false hair; use of hair dyes; and close crimping and curling, especially with a hot iron, are all producing causes for this unpleasant disease. The treatment is the same as for *asteatodes*, and this encouragement may be given, that intelligent care will usually overcome it and greatly improve both quantity and quality of the hair. The rosemary unguent, already given, should be beneficial for this condition, and here are others applicable to varying symptoms and constitutions:

STIMULATING UNGUENT.

Cocoa-nut oil	3	ounces
Tincture of nux vomica	4½	drachms
Jamaica bay rum	2	ounces
Oil of bergamot	40	drops

PHŒNIX POMADE.

Oil of mace	1	ounce
Cocoa-nut oil	2	ounces
Beef marrow (clarified)	3	ounces
Lard (purest)	2	ounces
Camphor	¾	drachm

Put in a *bain-marie* and melt together by gentle heat; strain though muslin into a slightly warmed earthen bowl or mortar, and when partly cooled add of

Oil of cloves	15	drops
Oil of lavender	15	drops
Oil of mint	15	drops
Oil of rosemary	15	drops
Oil of sage	15	drops
Oil of thyme	15	drops
Rectified spirits	1	ounce
Balsam of tolu	4	drachms

Dissolve the tolu in the spirits before adding to the mixture, which stir till the whole is cold. This being an *olla podrida* of stimulating aromatics, great virtue has been claimed for it.

One formula given for the celebrated Macassar oil long endowed, by our English cousins, with wonderful recuperative, hair-growing powers, is this:

MACASSAR OIL.

Oil of almonds	1	pint
Alkanet root	2¼	ounces
Oil of cloves	19	grains
Oil of mace	19	grains
Oil of rose	19	grains
Oil of cinnamon	1	drachm
Tincture of musk	15	grains

The alkanet root, coarsely powdered, must be macerated in the warm almond-oil until it imparts to the oil a deep red color, when strain, and add the other oils.

Another formula, essentially different, is given as the result of an analysis of the proprietary oil:

MACASSAR OIL, NO. 2.

Castor-oil (reddened with alkanet root)	1	pint
Rectified spirits	¼	pint
Oil of rosemary	15	drops
Oil of thyme (white)	15	drops
Oil of nutmeg	30	drops
Oil of néroli	10	drops
Essence of musk	5	drops
Otto of roses	20	grains

Mix altogether, agitate for some time; let stand for a week; if cloudy and ingredients have not mingled well, place the bottle (tightly corked) in hot water for a short time; then agitate gently till cold. If there be any residuum at the bottom, when settled, decant. Of the odors, the rose should dominate all others.

PORTUGAL OIL.

Expressed oil of almond	1	pint
Oil of bergamot	2	drachms
Oil of lemon	40	drops
Oil of néroli	25	drops
Oil of petit-grain	25	drops
Oil of Portugal	½	ounce
Oil of cinnamon	25	drops

These should mingle readily without heat, but if very cold might be submitted to gentle warmth. Should be kept closely corked. This is a delightful oil and should be beneficial. The women of Spain, who are noted for their beautiful hair, make abundant use of the extract of Portugal, which, it will be remembered, is made from the expressed oil of the orange-rind.

A lotion which can be used to advantage alternately with these pomatums is made by steeping one pound of rosemary for several hours in rain-water. There should be a quart of water when strained; add to it a half-pint of bay rum. A lotion made from a weak extract of the oils of thyme and rosemary is also much esteemed in England.

HERBAL OIL.

Oil of almond	1	pint
Burdock root	¼	pound
Oil of rosemary	½	ounce
Oil of thyme	½	ounce
Oil of bergamot	5	drachms
Oil of lemon	2	drachms
Extract of rose (triple)	2	drachms

Macerate the burdock root in the almond-oil at gentle heat for two days; filter and add the other oils.

CINCHONA POMADE.

Beef marrow	1	pound
Lard	¾	pound
Oil of almond	5	ounces
Peru balsam	3	drachms

Cinchona bark	2½ drachms
Oil of cloves	2 drachms
Oil of lavender	2 drachms

Macerate the finely powdered bark in the fat for twelve hours, put the balsam in the almond-oil at the same time, then mix the two compounds and strain; afterwards add the essential oils.

Especially stimulating when the glands are clogged and the hair is dry and lustreless is this:

MERCURY OINTMENT.

Oil of ergot	2 ounces
Mercury oleate	2 ounces

Perfume with violet or lavender.

Ergot, like tannin, is astringent and arrests the formation of scurf. Oil of eucalyptus is also a stimulating agent. It must always be borne in mind that different cases and constitutions require different treatment. Potash, soda, and borax are all good to soften the epidermis and diminish congestion of the skin, and their action is favorable in all conditions indicating abnormal activity. They are useful also in destroying morbid products; but excessive use of all these caustic remedies is harmful, hence great care must be exercised. Chloride of sodium (common salt) has, as a rule, a very favorable influence upon the growth of the hair, and is emphatically endorsed by some German physicians; but there are people with whom it does not agree at all, its stimulation passing into irritation; therefore it, too, must be used with caution.

When the hair is falling, it is easy to determine whether the disease is chronic or acute by examining the combings for several days. If, from a woman's long hair, one third of these are short ones, new growth, that is with points, and not more than six inches long, it is acute alopecia. If in short hair, the point-hairs should not exceed one fourth or fifth of the whole combing. In all cases of alopecia it is well

to take internal remedies; and especially is this the case when the disease is chronic, an indication of constitutional or hereditary failure to furnish the hair-forming structure with proper nutriment.

Hypophosphite of soda is a common prescription which under most circumstances acts beneficially and is harmless; but if taken in excess, owing to its invigorating powers, it may induce plethora or fullness of blood, and consequently may affect persons liable to inflammatory affections most unpleasantly, causing fullness of the head and throwing too much work on the heart. The dose is five or six grains, twice or thrice daily; but it is best to omit its use for a week every fourth or fifth week. Anæmic women can of course take larger doses than stout, full-blooded persons. With the caution that it is always best to seek the personal advice of a physician before taking any internal medicine, I give here some of Dr. Shoemaker's prescriptions for falling hair:

1. ℞. Corrosive sublimate..... 1 grain
Glycerine. ..... 3 ounces

Mix: dose, 1 teaspoonful four times daily.

2. ℞. Tincture of jaborandi.

Dose: 5 to 30 drops in water four times daily.

3. ℞. Sulphurous acid..... 2 ounces
Syrup of orange-flower..... 2 ounces

Mix: dose, 1 teaspoonful (in water) three times daily.

4. ℞. Syrup of hypophosphites..... 5 ounces
Aloin. ..... 2 grains

Mix: dose, 1 teaspoonful three times daily.

Jaborandi is a comparatively new remedy for the hair,

having great vogue of recent years in England, where it was launched upon a waiting and eager public as a specific for falling hair. It is a South American shrub of the rue family, *Pilocarpus pinnatifolius*. The leaves have been used medicinally for a long time; but the action of muriate of pilocarpine on the growth of the hair was accidentally discovered by Dr. Schmitz, who saw new hairs develop on bald spots on two persons to whom, for physical ailments, he had given hypodermic injections of pilocarpine.

Further experiments convinced physicians that where the disease had not reached a pronounced stage, indicating atrophy of the papillæ, this treatment might produce permanent results. It is best employed in the form of hypodermic injections twice a week, the dose being from 0.005 to 0.010 grain. Dr. Pick recommends the same amount to be taken internally twice daily.

This lotion has been used effectively in connection with the jaborandi treatment, for hair that was growing gray:

Terebene	1 drachm
Borax	1 drachm
Sulphur	1 drachm
Lavender-water	6 ounces

Bald spots sometimes accompany acute alopecia following severe illness. For such cases the following lotions and treatment have brought relief:

Tincture of cantharides	1 ounce
Rectified spirits	2 pints
Sublimed sulphur	1 ounce
Glycerine	8 ounces

Brush the spots three times daily with a baby-brush for five minutes, and wet with the lotion, letting it dry in.

Once a day, preferably at night, the parts should be bathed gently with warm water and dried. Do not rub with the towel, but massage very gently with the finger-tips.

When young hair begins to grow the foregoing lotion may be changed for this:

STIMULATING HAIR TONIC.

Violet ammonia	½ ounce
Rectified spirits	½ pint
Sublimed sulphur	¼ ounce
Tincture of cantharides	½ ounce
Glycerine	2 ounces
Phosphate of lime	¼ ounce
Tincture of cinchona	½ ounce

Should this produce irritation of the skin reduce with the same bulk of glycerine and water.

Another stimulating application is the following:

NO. 2.

Oil of mace	½ ounce
Deodorized alcohol	1 pint

Rub this tincture upon the bald or thin spots three times daily until the hair begins to come in; then at night only. It is better to keep the young hair closely cropped till it comes in thick and strong, which will prove that the hair-bulbs have been restored to their normal activity.

Bald spots usually indicate extreme nervous exhaustion and call for nerve tonics internally, which, of course, the physician should prescribe. Under all circumstances a great deal of patience will be required, for recovery is usually slow.

Electricity is also a very valuable agent in promoting cellular nutrition and revitalizing all nerve and muscle fibres. As treatment is given now with static electricity the most nervous and delicate persons can take it without discomfort or irritation; and it is rapidly being recognized as an ideal agent for restoring tone and strength to debilitated nerves, and overcoming the depression and exhaustion due to overwork.

This French formula contains many stimulating ingredients which warrant its recommendation for use in cases of acute alopecia following severe illness:

JABORANDI TONIC.

Jaborandi leaves	½ ounce
Tincture of cinchona	3 ounces
Tincture of arnica	3 ounces

Macerate the leaves in the tinctures for eight days; then filter, and add:

Tincture of cantharides	⅔drachm

Apply every night from a drop-stoppered bottle, wetting the scalp thoroughly, and massaging for five or ten minutes.

Somewhat similar is this formula:

QUININE HAIR TONIC.

Sulphate of quinine	20 grains
Tincture of cantharides (alcoholic)	2 drachms
Extract of jaborandi	2 drachms
Deodorized alcohol	2 drachms
Glycerine	1 ounce
Bay rum	6 ounces
Elder-flower water, sufficient to make	1 pint.

Dissolve the quinine in the alcoholic liquids, then add the other ingredients.

QUININE TONIC, NO. 2.

Sulphate of quinine	1 drachm
Rose-water	8 ounces
Rectified spirits	2 ounces
Dilute sulphuric acid	15 drops

Mix; then add:

Glycerine	¼ ounce
Essence royale	6 drops

Agitate till solution is complete, and, after standing twenty-four hours, decant.

For scanty, thin hair through heredity or constitutional weakness, the following tonic has been prescribed by an English woman physician of large practice:

CANTHARIDES TONIC, NO. 1.

Tincture of cantharides (alcoholic)..	2½ ounces
Jamaica rum.....	2½ ounces
Glycerine	½ ounce
Sesquicarbonate of ammonia.....	2 drachms
Oil of rosemary.....	20 drops

Mix: then add:

Distilled water.....	9 ounces

To moist, oily hair, this next lotion will be congenial; but it is more cleansing than stimulating, could serve as a shampoo, and under no circumstances should be used oftener than once a week. A pomade might follow its use with advantage, or it could be alternated with the Hair Cream, formula for which succeeds this:

LOTION FOR OILY HAIR.

Bicarbonate of soda.....	¼ ounce
Borax	¼ ounce
Cologne water.....	2 ounces
Rectified spirits.....	1 ounce
Tincture of cochineal.....	½ ounce
Distilled water.....	16 ounces

Mix, and agitate thoroughly.

LANOLINE HAIR CREAM.

1.	Almond cream.....	1 drachm
	Chloride of pilocarpine.....	¼ drachm
	Glycerine.	1 ounce
2.	Oil of amygdalin.....	1 ounce
	Lanolin	1 drachm
	Otto of roses.....	8 drops

3. Tincture of cantharides..... 2 drachms
Elder-flower water..... 4 ounces

Mix separately the first two lots; add No. 2 to No. 1, gradually, stirring all the time; then pour in No. 3 in a slow, fine stream, stirring constantly to prevent the emulsion from separating. This is cleansing and emollient, as well as stimulating; but has the disadvantage of being quite expensive.

An excellent lotion for hot, muggy weather when the hair is heavy with moisture is the following:

CAMPHOR-JULEP LOTION.

Price's glycerine..... 1 ounce
Cologne water..... ¼ pint
Violet ammonia..... 1 drachm
Tincture of cantharides..... 1 ounce
Oil of origanum..... ½ drachm
Oil of rosemary..... ½ drachm

Agitate for ten minutes, then add:

Camphor-julep. ..... ½ pint

To make the julep, triturate a ¼ drachm of camphor with five drops of deodorized alcohol until reduced to a powder; then add gradually, with constant trituration, a half-pint of distilled water; strain through linen or coarse, porous paper. This is the formula of the London Pharmacy, but the caution is given that agitation must be continued for two or three hours, or the water will not be fully saturated. Camphor-julep is efficacious in allaying itching and irritation, and is slightly stimulant.

AROMATIC LOTION.

Spirits of rosemary..... 4 drachms
Spirits of thyme..... 4 drachms
Tincture of cantharides (alcoholic).... 4 drachms
Bicarbonate of sodium..... 2 drachms
Oil of mace..... 2 drachms
Oil of nutmeg..... 15 drops

Oil of cinnamon..... 15 drops
Violet ammonia..... 1 ounce
Eau de Cologne to make 10 ounces.

Add the oils to the Cologne, dissolve the sodium in the spirits, mingle the two; agitate, then add the tincture and the ammonia. Not to be used if there is any inclination to eruptions.

The following has proved extremely efficacious in many cases, used in conjunction with internal remedies, where loss of hair was plainly traceable to impaired physical condition:

NUX VOMICA TONIC.

Tincture of cantharides (alcoholic)... 2 drachms
Tincture of capsicum..... 1 drachm
Tincture of nux vomica..... 4 drachms
Cocoa oil..... 1½ ounces
Eau de Cologne..... 5 ounces

For very oily hair the next formula may be better suited. Both are to be applied as previously directed:

CANTHARIDES TONIC, NO. 2.

Tincture of cantharides (alcoholic)..... 1 ounce
Spirits of rosemary..... 1½ ounces
Glycerine ..... 1½ ounces
Aromatic vinegar..... 1½ ounces
Rose-water ..... 3 ounces

Two lotions commended by the dermatologist Dr. Erasmus Wilson for alopecia, the use of which once or twice weekly might ward off the trouble and stimulate constitutionally-weak hair, are these:

WILSON'S STIMULATING LOTION, NO. 1.

Liquid ammonia..... 1 ounce
Chloroform. ..... 1 ounce
Oil of sweet almonds..... 1 ounce
Spirits of rosemary..... 5 ounces

WILSON'S STIMULATING LOTION, NO. 2.

Eau de Cologne	8 ounces
Tincture of cantharides	1 ounce
Oil of lavender	½ drachm
Oil of rosemary	½ drachm

Should the first prove too strong for some scalps, it may be diluted with equal parts of glycerine and eau de Cologne. Both are to be rubbed into the roots of the hair and followed with massage. Always it should be remembered that treatment to arrest loss of hair should begin as soon as any change in its condition is noticed. Normally, much less than fifty hairs should fall from an average head of hair daily; and weakness is indicated also by its becoming finer and losing its brightness and color; the scalp, too, loses its elasticity and hardens.

I shall conclude this long list of remedies for falling and thin hair with two so-called specifics; both endorsed as "a family receipt," and one pronounced "something of a family secret." In each case it is asserted that the ladies of the family have magnificent hair, which they attribute to the regular use of the highly-prized lotion:

YELLOW DOCK-ROOT LOTION.

Yellow dock-root	1 pound
Water	5 pints

Boil together till the water is reduced to a pint; strain and add:

Pulverized borax	1 ounce
Coarse salt	½ ounce
Sweet oil	3 ounces
New England rum	1 pint

Add the juice of three large red onions, and perfume with

Oil of lavender	1 ounce
Ambergris	10 grains

The second "family receipt" is much simpler, but it is more than doubtful if it would avail to stimulate indolent or weak hair-follicles and papillæ, or arrest falling hair. It is a pleasant lotion for naturally strong and healthy hair, promoting cleanliness and furnishing all the stimulant necessary to strong organs. It is said that a whole family have used it for many years and have heavy, long hair, retaining its color perfectly past middle age:

Eau de Cologne.....	16 ounces
Pure castor oil.....	2 ounces

If the spirit be of proper strength it will dissolve the oil completely, and the lotion should be clear and perfectly cleanly. Only the best and purest Cologne will answer for this. If your chemist cannot guarantee it get the German make known as "No. 4711." Much of that sold as "Genuine Farina," and bottled to imitate the packages so familiar to all visitors to the Rhine city, is of no more value than so much water. The label "Johann Maria Farina's Original-recept vom Jahre 1826" is worthless for the purpose, as it will not take up one grain of the castor oil.

With regard to the color of hair there has been accumulated a mass of curious testimony which, while utterly disproving the old dictum, "once gray, always gray," brings to our notice other peculiarities of the hair-coloring cells which are yet not fully understood. Hair may change to almost any color; flaxen locks have become chestnut, red, brown, or even black; dark-brown hair has changed to red or light brown; and black to flaxen. There are even cases in which white and brown segments alternate as in porcupine quills; and gray hair is often restored to its natural color.

There is a well-authenticated case of a woman, only thirty-six years of age, who was very ill with malignant fever; on the sixth day of her illness her hair turned perfectly white, but on the following day it began to turn dark

again. In two weeks' time it was restored to its original color. Dr. Landois has made experiments going to show that a sudden development of gas may whiten the hair. Severe attacks of neuralgia will cause the sudden blanching of the hair immediately over the seat of the pain, but in many cases the normal color returns in a few days. A young woman after an attack of pneumonia lost quite half of her hair, and about the temples and on top of the head it was thickly strewn with gray; but on her restoration to health her hair regained its normal color, dark brown.

Dr. Anistic is himself a victim to the blanching of the hair upon one side of his head, due to repeated attacks of *migraine*. The hair shows no tendency to fall, and in a few days after the illness is restored to its natural color. In his "Surgical Pathology," Dr. Paget records the case of a lady, subject to nervous headaches, who, following every attack, finds her hair, in spots, snow-white; in a few days the color returns. Of the blanching of hair from fright there are so many well-known instances that it is unnecessary to enumerate any. It is, however, calculated to lower one's estimation of the value of a so-called expert's opinion on the whole subject of the treatment of the hair, when in the face of such testimony he professes disbelief, and there are some of these chronic doubters still abroad, who are posing as authority.

Although Nature has shown us what she can do, her ways are so cunningly intricate that man has as yet very imperfectly learned the art of imitating her; therefore, it is very much easier to prevent premature gray hair than to restore its color. It very frequently accompanies alopecia and results from the same causes. Hygienic treatment stands first, of course, in all preventive measures, and many of the lotions and tonics already given for falling hair will be efficacious. As extreme exhaustion of the nervous system is indicated, internal remedies must be taken to restore that; and nux vomica and phosphorus, combined with iron or

MADONNA AND CHILD—BODENHAUSEN.

arsenic, are indicated. One of the best preparations for administrating arsenic is the following, but the caution is again insisted upon that a physician should be consulted before taking any medicine. Arsenic is an edged tool, that if not indicated by condition may do great harm:

℞. Fowler's solution of arsenic..... 1 drachm
Muriate tincture of iron..... 2 drachms
Muriate tincture of cinchona..... 2 ounces
Compound tincture of cardamom..... 1 oz. 5 drachms

Mix. Dose: a teaspoonful four times a day.

Cod-liver oil is also indicated in many cases; and there are compound phosphorus and quinine pills which are of value.

If the hair be naturally dark an admirable lotion for it is red wine and sulphate of iron. Dissolve seven grammes of the sulphate in an ounce of distilled water, then add it to a pint of California claret and steep it gently for ten minutes. Wet the hair with it very thoroughly, massage, and let it dry in. If used at night the pillow will need protection, as unless the hair be perfectly dry, the lotion will stain.

Another most effective lotion which has restored color in some cases, entirely arrested falling hair, and stimulated the growth of the new, is made of green tea and new garden-sage prepared as follows:

HERB-TEA LOTION.

Green tea..... 2 ounces
Garden sage (last crop, dried)..... 2 ounces

Put in an iron pot which can be closely covered, and pour over the herbs three quarts of boiling water—preferably soft; let simmer till reduced one third; then take off the fire and leave in the pot for twenty-four hours; strain and bottle. Wet the hair with the lotion very thoroughly every night, and massage the scalp for ten minutes both

night and morning. This, too, has the inconvenience of staining the pillow if the hair is not dry before retiring; but its virtues are so great that they overbalance this inconvenience.

I have known a most obstinate case of alopecia—which, beginning in an acute form, following *La Grippe*, finally became chronic—to be cured by this tonic, when quarts of bay rum, quinine, and canthardies had been used without more than very temporary relief.

Drs. Eble and Pfaff, German physicians, claim to have restored color to gray hair by giving sulphur and iron internally and anointing the scalp with yolk of egg. As the treatment follows the hint which analysis gives us of Nature's methods it should be effective, supplying as it does the two minerals upon which the color of the hair is supposed to depend.

Women should be cautioned that any cause depressing and lowering the tone of the body, and more especially uterine troubles which affect so disastrously the whole nervous system, may induce atrophy of the hair-coloring structure; and they should remember that an ounce of prevention is worth a pound of cure.

A French authority recommends very highly a decoction of walnut leaves for strengthening the capillary tissues. While used sometimes as a dye it is also believed to have real virtue in restoring the color. It is perfectly harmless, but necessarily, it stains badly. The juice of the bark or nut-shell is also used, and it is recommended to add to it alcohol in the proportion of one sixth, a few bruised cloves, and a little chloride of sodium (table salt). Let the whole digest for a week or longer, with occasional agitation, then decant, and, if necessary, filter. It must be kept in a cool place. The fingers should be smeared with vaseline before using it, to prevent the stain being fixed. A remedy which I find chronicled as "most useful to restore color," but regarding which I cannot testify personally, is this:

OLLA PODRIDA POMATUM.

Oil of walnuts	3 drachms
Oil of chamomile	3 drachms
Oil of eggs (expressed from hard-boiled yolks)	3 drachms
Oil of mace (ethereal)	1 drachm
Oil of cassia	3 drachms
Oil of colocynth	3 drachms

The following solution of iron may affect some hair very favorably:

HAIR RESTORER.

Citrate of iron	2 drachms
Nux vomica	2 drachms
Cocoa-nut oil	1½ ounces
Bay rum	2 ounces

Should the normal amount of sulphur be absent from the hair, or the supply be deficient, it will be necessary to alternate the above with sulphuret of potassium, or hydrosulphuret of ammonia, moistening the scalp and hair with it about twice a week. Other agents which will gradually darken the hair are tannic or gallic acid mixed with oil, glycerine, or lard, in the proportion of one drachm of either acid to an ounce of glycerine or oil. Apply as you would any unguent.

An English hair-darkening lotion is the following:

Rust of iron	1 drachm
Old ale	1 pint
Oil of rosemary	12 drops

Cork loosely; agitate daily for twelve days; then, after repose, decant the clear portion. The effect is similar to the wine and iron tonic already given. None of the foregoing can be considered dyes. They are harmless expedients working in the line of Nature.

To darken patches of gray hair the following, which is more of a dye, can be used:

Pyrogallic acid	¼ ounce
Distilled water (hot)	1½ ounces

Dissolve, and when cool add

Rectified spirits	½ ounce

Dilute the mixture when using with twice its quantity of soft water, and add a little rectified spirits: apply with a soft brush. It stains, of course, and the effect is gained by repeated applications. The French employ gallic acid a great deal in hair dyes. This substance is extracted from Aleppo or Chinese nut-galls, and must be used with extreme caution because of its poisonous nature.

The following lotion is commended very highly for premature grayness accompanying acute alopecia: faithfully used it will greatly aid in the restoration of health and strength to the scalp and hair-follicles and papillæ, and unless positive atrophy of the pigment-forming cells in the papillæ has set in, will restore the color:

NATURE'S RESTORATIVE.

Sulphate of iron	1 drachm
Sulphume	½ drachm
Tincture of jaborandi	1 ounce
Extract of rosemary	4 drachms
Extract of thyme	4 drachms
Rectified spirits	1 ounce
Glycerine	1 ounce
Elder-flower water	½ pint

Add the iron to the spirits, the glycerine to the extracts and tincture, the sulphume to the perfumed water; agitate till well mingled and incorporated; then add the first mixture to the second, and lastly unite with them the third. Apply to scalp and hair, as previously directed for lotions, nightly, following with massage. If decided improvement is seen in one month, use every other night for another month; then at longer intervals. Should it prove too stimulating dilute with rose-water (or distilled) and glycerine.

A simpler lotion, which it is affirmed will certainly restore the color to dark hair, when it is lost through sickness or mental exhaustion, is this:

Tincture of acetate of iron	1 ounce
Water	1 pint
Glycerine	½ ounce
Sulphuret of potassium	5 grains

Mix well, and leave the bottle uncorked to let the disagreeable odor from the potassium pass off. Afterwards perfume with a few drops each of oil of lavender and oil of cloves. Rub a little of this daily into the scalp.

I will add here the formula for a well-known unguent which has earned a reputation as efficacious in the cure of dandruff and also falling hair and baldness:

DUPUYTREN'S POMADE.

Prepared beef-marrow	12 ounces
Baume nerval	4 ounces
Balsam of Peru	3 ounces
Oil of almonds	3 ounces
Tincture of cantharides (alcoholic)	36 grains
Rectified spirits	2 drachms

Melt the marrow by gentle heat; then add the *baume*, balsam, and oil, stirring till thoroughly incorporated; put the tincture into the spirits, and add to the mixture, beating till it concretes. This is the original formula for this celebrated pomade. The *Baume Nerval* is a noted ointment [of stimulating, tonic properties] in French pharmacy and is compounded as follows:

BAUME NERVAL.

Expressed oil of mace	4 ounces
Purified ox-marrow	4 ounces
Oil of rosemary	2 drachms
Oil of cloves	1 drachm
Camphor	1 drachm
Balsam of tolu	2 drachms
Rectified spirits	4 drachms

Melt the oil and marrow together as in making cold-cream; dissolve the camphor and balsam in the spirits; stir in the aromatic oils, and add the alcoholic extract last of all. Some formulas for the pomade omit this *baume* and add instead ten to fifteen drops of the oils of mace, cloves, and cinnamon. Apply the pomade to the scalp once daily, for a week at a time; then interrupt for a week and resume, till a cure is effected. Massage twice daily all the time. A lotion could be used with good effect during the alternate weeks, as the herb or rosemary tea.

If none of the foregoing remedies prove effectual in restoring the color of the hair it is much the wisest plan to let Nature have her way; for though we can ably assist her, often with the happiest results, when we work at cross-purposes to thwart her it generally results in our being worsted. Only in those very rare cases where from shock of accident or severe illness in extreme youth the hair blanches to the snowy whiteness of the sexagenarian does it ever seem advisable to resort to dyes, pure and simple, to correct what, because of its unusualness, we call Nature's mistake.

Almost none of the dyes in common use are harmless. Most of the magic mixtures so extensively advertised and so highly extolled are compounded of deadly and most insidious poisons, that oftener than not ruin the hair, and inflict irreparable injury to the whole system. The secrets of these I shall disclose; giving also formulæ for the least harmful dyes which are unfortunately much less used; and urging that if something of the sort must be resorted to, it will be chosen from the latter.

Before giving the *modus operandi* for bleaching and dyeing the hair, I must enter an emphatic protest against the general practice. For ninety-nine cases out of a hundred, I say don't! Gray hair is usually vastly becoming to youthful faces and imparts a certain air of distinction; as women often discover when they powder their hair for some cos-

tume party. As for the gray hair of age, this is Nature's method of refining and softening the face, and she so harmonizes her work that the aged face looks younger when framed in iron-gray or white hair than when the hair retains its color, especially if it be very dark; while all attempts to darken it artificially are, with rare exceptions, ghastly in their results. Iron-gray and silver hair have a beauty all their own, which itself is a recompense for the change, and which no dyed hair can by any possibility approach.

From the Orient comes the baleful custom of dyeing and bleaching the hair simply to change its color as you would that of your gown. In the harems of Persia and Turkey, where the women have few interests to occupy their minds, it is a chief amusement to dye the hair; and when the blonde colors hers black the brunette bleaches hers to a reddish gold. They even dye the hair of infants two or three years old. But why the emancipated women of the Western nations should ever have given even a transient vogue to the custom, it is impossible for either common sense or artistic taste to discover.

The craze has already wrought its ultimate extinction, for it has ruined many beautiful heads of hair. To many a girl, Ovid's rebuke to the Roman woman so long ago would apply: "Your own hand has been the cause of the loss you now mourn, for you poured the poison upon your own head."

In most of the proprietary hair-dyes the principal chemicals employed, nitrate of silver and lead, possess great disadvantages; the first staining the skin badly, and injuring the texture of the hair, and the latter being an active poison, liable to cause painful colic, and even contraction of the limbs.

This is one of the standard preparations:

M. PIESSE'S HAIR DYE.

Nitrate of silver..... 28 grammes
Rose-water. ..... 225 grammes

Dissolve: when diluted with an equal part of distilled water, it dyes deep brown or chestnut; with twice its bulk, light brown; and undiluted, complete black, though the shade of hair modfiies the effect somewhat. When using this the adjacent skin should be washed with a solution of chloride of sodium to prevent discoloration. The hair must be cleansed entirely from oil by an alkaline shampoo; if allowed to dry first it will take the color better. After moistening with the solution, expose the hair to light. Sunlight will set the color in a few minutes; but in diffused daylight it may take several hours; therefore, if time is of importance a "mordant" must be applied, and commonly an application of this second solution follows the nitre:

Sulphuret of potassium.....	1½ drachms
Distilled water.....	2 ounces

This "sets" the color immediately. It will aid somewhat to prevent staining the skin if the "mordant" be applied *first;* following it in a few minutes with the dye, but the color thus produced is not so permanent. The dye is best applied with a brush; and it is hardly necessary to add that it is a difficult task for a woman to do it for herself. To avoid staining the hands, gloves should be worn; the solution of potassium will remove the stain if applied immediately. As the dye is extremely caustic, rendering the hair dull and brittle, it is necessary to anoint the scalp and hair once or twice a week with some unguent.

A much more harmless dye and easier to apply, which gives a bright red or reddish-yellow hue to the hair, according to the strength of the preparation, is a solution of pure rouge, or a strong infusion of saffron, in a weak solution of crystallized carbonate of soda; to be followed, when dry, by a "mordant" of lemon-juice or vinegar diluted with an equal part of water. Always before using any preparation to change the color of the hair it must be freed from all oil

by a thorough shampoo, and would better be dried also.

Hyposulphite of soda will color the hair black provided it contains sufficient sulphur to combine with it, and it has the advantage of not staining.

BROWN HAIR DYE.

Pyrogallic acid	1 drachm
Eau de Cologne	2 drachms
Rose-water	5 ounces

This is similar to a lotion already given "to darken patches of gray hair," and the directions therewith should be observed.

Note specially that the shades obtained by preparations of iron and bismuth range from dark brown to black; those by nitrate of silver, from a rich chestnut to deep brown and black; from pyrogallic acid and walnut-juice, various shades of brown, the first warmer in tone; and from lead, varying shades from reddish-brown and auburn to black. The lead shades when the dye is badly compounded or unskillfully applied are extremely ugly.

More as a warning than for information, I will mention that the daily use of oil or pomatum with which a few grains of carbonate of lead, lead-plaster, or trisnitrate of bismuth, have been blended by heat and careful trituration, will gradually darken the hair. Its long-continued use, however, is perilous, being liable to cause atrophy of the scalp and consequent baldness; and sometimes even local paralysis.

The lead dyes composed of litharge and lime are also extremely injurious, besides being inconvenient. They are sold in the form of a white powder to be made into a paste, when used, with warm water (for black) or milk (brown); and to be applied with a brush or rubbed in with the fingers. The operation is extremely tedious, and in some of the much vaunted compounds—as "Dr. Hanmann's"—the proportion of quicklime is so large that it often damages the roots

of the hair, and even acts as a depilatory; for which purpose it might much better be reserved.

In the Orient the black sulphurets of lead and antimony, and the oxide of iron are occasionally used for coloring the hair the glossy, midnight black there so highly esteemed; but the favorite medium, and much the best one, is the famous henna, a preparation of the *Lawsonia inermis*. Sometimes it is combined with powdered gall-nuts, mixed in a paste, and followed by another paste made of iron pyrites which the Armenians obtain in their mountains, and which from being a favorite stain for the eyelashes has received the name *rastikopétra*.

The popular method in Persia is to apply a paste of the henna powder all over the hair from the tips to the roots. It is left on for a half-hour or longer—according to the natural color of hair—and then washed off, when the hair will be found to be dark red; following this a paste of indigo is applied which is left on from an hour and a half to three hours. After the indigo paste is washed off, the hair is well oiled; and the jetty blackness resulting from the operation is unequalled, while the process is probably the least dangerous of all hair dyes. The henna paste is made by reducing the dried leaves to a coarse powder and mixing with hot water; and when it alone is used on white hair it turns it to a fine golden red.

Another method is to mix one part of henna into a paste with three parts of indigo and apply. The longer it remains the darker the color; it is said to produce a clear brown in one hour. Where the skin has been colored by the operation it can be washed clean with soap and water, without affecting the color of the hair, which is retained for a long time.

The coveted Titian red, much affected by Oriental women, is produced by them in the following way, probably the least injurious method of obtaining it:

ORIENTAL HENNA PASTE.

Powdered henna	¼ pound
Acetic acid	4 drachms
White honey	4 drachms
Powdered rhubarb	4 drachms

Hot water, sufficient to form a paste. It is applied as directed for the foregoing, and the long ends of hair are fastened in strands upon the head after it has been thoroughly covered wtih the paste, the remainder of which is plastered over all and left for two hours to dry. It is then washed off in several waters softened with ammonia or soda. When the hair is dried in the sun—and the women sit on the house-tops for that purpose—it becomes a mass of ruddy gold. Gloves should be used upon the hands or else they should be smeared with vaseline during this operation.

A harmless vegetable dye which by repeated applications will turn the hair quite black is this:

Mullein flowers	½ ounce
Genista..	½ ounce

Steep in water till the liquor is black; apply with a brush.

Another humble agent which every household can afford, and which produces varying shades of brown according to the number of applications, is made of potato parings, covered with cold water and boiled in an *iron pot* till soft. Strain the water, and when cool apply with a comb or brush, wetting the hair thoroughly. It must be used carefully, for, like all these coloring substances, it stains the skin; and if the parting is discolored it should be cleansed before it dries in. If the hair be dried in the sun it will take a deeper color.

The texture and vitality of the hair are even more seriously affected by the bleaching than by any of the coloring agents; and that most commonly used, peroxide of hydrogen, or oxygenated water, will, if its use be persisted in,

utterly destroy the hair, as many a vain and thoughtless woman can attest. It induces an actual decay of the hair structure, rendering it brittle, and shrivelling it up. The legitimate and only reasonably safe use of this fluid is limited to an occasional application simply for the purpose of brightening certain-hued hair. Its success even in bleaching depends on the natural color of the hair, and it makes some locks very pallid and dead looking. Dark brown, coarse hair is best affected by its occasional use. But always it should be remembered when applying it that it is the hair, not the scalp, which should be exposed to its action. If persistent efforts are made to bleach the hair close to the scalp, it will inevitably destroy the follicles. Always the hair is darker at the roots, and natural hair is not uniform in shade; its changing hues in varying lights and shadows is one of the charms I have noted before.

The peroxide decomposes rapidly when exposed to the light or in contact with a metallic oxide; therefore, it should be kept in *black* glass, and in a dark closet. The bleaching is best done in the morning, and, like the dyeing, is aided by sunlight; and the foolish woman who persists in thus jeopardizing one of her most precious natural advantages, is reminded that the effect will be extremely inartistic, if not grotesque, unless she matches her eyebrows with her hair.

A solution of bichloride of tin, followed by a "mordant" of hydrosulphuret of ammonia, gives a rich golden-yellow tint to very light hair, and a bronze hue to darker hair; and one of acetate of lead, followed by a "mordant" of yellow chromate of potash, produces a similar hue, which can be deepened in tone by the addition of a few drops of solution of diacetate of lead. The constant washing with strong alkalies, potash, soda, borax, and ammonia will bleach the hair in time, but inevitably injures the texture and life of the hair.

Superfluous hair, that growing in places where we would not have it, is frequently the source of extreme annoyance

and even mortification. The only effectual remedies for this trouble are such as will destroy the hair-papillæ, and as yet, minor surgery alone has accomplished this. Electrolysis is the best known of these operations, and it has been so perfected that as now performed it is absolutely painless and leaves not the slightest trace of the operation, restoring the skin to its normal smoothness.

Piffard's treatment is to partially pull the hair and then insert a surgeon's needle, thrusting it to the base of the follicle and puncturing the papilla, which by a twirl or two it breaks down. If the needle be dipped in a solution of equal parts of carbolic-acid and olive-oil it will be an advantage. A similar method is to pull the hair taut—by which means the direction of its root will be more clearly seen—and push down to its root a fine cambric needle, previously dipped in a solution of nitrate of silver. The nitrate cauterizes and destroys the papilla, and of course the hair drops out.

The reason for the failure of so large a percentage of these puncturing operations, is that the oblique direction of the follicle makes it difficult to ascertain the exact location of the papilla.

The Turkish depilatory, *rusma*, should never be resorted to, as its principal agent is orpiment, the yellow sulphuret of arsenic, which is a deadly poison. One of the safest depilatories, called "the best" by some authorities, is the following:

DEPILATORY LIQUID.

Sulphuret of barium.....	3 ounces
Water.	12 ounces

Mix into a paste by wetting corn-starch with the solution and apply to the offending hairs. When dry the hairs will come away with it. If the skin is irritated soothe with zinc ointment (for formula, see Index).

A German formula is a paste composed of sulphuretted

hydrogen and calcium hydrate which forms a grayish-green mass of offensive odor, only partially concealed by the addition of orris-root, oil of lemon, or tonca-bean. The paste must be kept in a tightly corked bottle or jar; spread thinly over the parts to be treated with a bone or ivory knife (a small paper-cutter is convenient); according to irritability of the skin let it remain from 5-10 minutes, then scrape off with the knife; cleanse with lukewarm water, and sooth the irritated skin with talcum-powder, or, if necessary, zinc ointment.

Still another, said to be "very effective and as safe as any," is this, but it is necessary to add the caution that the sulphide is a powerful caustic and must be used with extreme care:

Calcium sulphide (recent)	1 ounce
Quicklime	1 ounce
Powdered starch	1 ounce

Reduce separately to a fine powder, mix, and keep in a closely stoppered bottle; make a paste with soft water and apply as above directed.

CAZENAVE'S POMMADE ÉPILATOIRE.

Quicklime	1 drachm
Carbonate of soda	2 drachms
Lard	1 ounce

Rub together to form an ointment; spread upon affected parts, and, according to irritation, leave 5-10 minutes.

A cleansing and pleasant powder which imparts to the hair a faint and agreeable odor is this:

IRIS HAIR POWDER.

Orris-root (powdered)	½ pound
Bergamot rind	2¾ drachms
Cassie flowers	2¾ drachms
Cloves (coarsely ground)	½ drachm

Mix, and pass through a sieve. Powder the hair with it at night; massage—*always* massage, that being the first and last thing to enforce in hygienic treatment of the hair and scalp—and after the morning massage shake the hair lightly and brush the powder out.

Another:

Corn-starch.	1 pound
Orris-root	1 ounce
Oil of rhodium	10 drops

Mix and strain as above directed, and use in the same way. This is an agreeable powder for whitening the hair when that is desired.

Diamond dust for the hair is made from white smalt, well washed, and rubbed into a coarse powder in an iron mortar. It is the substance resulting from fusing glass with the protoxide of cobalt.

With regard to the arrangement of the hair it is, of course, impossible to make further suggestion than to advocate the cardinal principle of correct taste and æsthetic feeling, that every woman should endeavor to suit the style of her hair-dressing to her face. In nothing is individuality more effective, and, alas! in nothing is the too common habit of adopting the latest craze or folly more disastrous.

Very fortunately the vogue of false hair has passed, and we had hoped that heating, microbe-breeding cushions had been relegated to the land of "have beens" also; but, unfortunately, the Pompadour style has brought them back, and, already, we are hearing of the hair which is growing thin in consequence of their use.

Fashion should have little or no influence in deciding upon the manner in which a woman dresses her hair, for she does not change the contour of her head and face with the shape of her hats. The "touselly" disordered locks which for a year or two past have fallen half-over the face and turned the head into a huge mop, have not presented

one redeeming point of grace, beauty, or becomingness to excuse them; and are such a positive offence to the eye as well as good sense that doubts as to the presence of any organs of thought under such craniums are forced upon us.

Neatness and evidence of care are the first and, perhaps, the only rules one can formulate; but brown and light hair are set off to greatest advantage when waved, fluffed, and curled; while heavy, dark hair should be treated with more dignity and displayed in glossy bands, coils, and braids, setting off the contour of the head, and so disposed as to conceal instead of exaggerate any irregularities. Moreover, all hair should so frame the face as to conceal defects and set off its greatest attractions; and the contour should be critically examined from every point of view, the back and sides being very important.

CHAPTER IX.

THE FASCINATION OF A BEAUTIFUL HAND.

"'Tis God gives skill,
But not without men's hands."

"For through the South, the custom still commands
The gentleman to kiss the lady's hand."

In her hand every woman, even the plainest featured one, possesses a power that when developed and trained wields a most subtle fascination. Yet many a woman who gives much time and study to the art of pleasing, and bemoans natural shortcomings or physical defects which thwart her commendable ambition, is entirely unconscious of this endowment.

The human hand is such a wonderful thing that it alone should convince the atheist that only a divine power could have created it. The hand is to our thoughts what our faces are to our emotions, giving expression and accent to them; and by gesture we often convey more meaning than by our words. The soul often speaks through the hand, when the halting tongue hesitates and leaves the word unuttered. By a thousand different positions, by countless attitudes of the fingers, the hand translates a great part of our thoughts and our feelings. It gives character to our speech, punctuating phrases and accenting our words,—in fact, it makes speech visible, and, in a congenial atmosphere, gives glimpses of the soul.

Formerly, the claim could hardly be denied that the

vivacious Continental peoples were much more animated in speech and gesture than the Anglo-Saxons; but this claim can no longer pass without challenge. It would be hard to find any women on the face of the globe, now, who use their hands more eloquently and cleverly "to point a moral, or adorn a tale," than do some of America's fair daughters.

You have but to watch a group of pretty women in the drawing-room engaged in merry chatter to prove this assertion. See with what cunning emphasis the delicate white hands point the phrases, lending to tritest words a deeper meaning, and charming you into a keener appreciation of every bright thought. The spectacle is fascinating to a degree; and, as you watch the lively motions, every slender finger seems to become a sentient being endowed with individuality.

Lavater says: "The hand, whether in motion or repose, has an expression of its own that is not to be mistaken. When in perfect rest it shows what are our traits of character, its flexions betray what are our actions and our passions." In all ages homage has been paid to the hand. Italy's great poet Petrarch confessed that Laura's "beautiful hand made captive his heart"; and both science and superstition have given vast importance to what Aristotle recognized as "the member of members."

Every movement of the hand is an index of the disposition and the ruling thoughts of its possessor; "even in repose the hand's flexions bespeak distinct and intense conditions of mind. A hand, however awkward in shape, may acquire absolute beauty of motion by following the dictations of a brain, delicate in conception, and denying nobly the grosser instincts."

Although the thoroughbred hand, proclaiming the distinction of refined birth and breeding, like the marked character inherent in the hand betraying our tastes and inclinations, is structural and born with us; the ability to use the

hand effectively and to make of it a thing of wondrous fascination and charm is purely a matter of training and cultivation, within the reach of every woman of ordinary intelligence and perseverance. It is possible to acquire such skill and perfection in the use of the hands—a skill which makes repose, when every tense muscle is relaxed, as eloquent as gesture—that you need fear no criticism; no one will know whether the form of your hand is beautiful or ugly.

The beauty of the hand is threefold, a trinity of power, being ethical, physical, and mental. The thumb is the thermometer of the will-power; the palm, of the vitality; and the fingers, of the mental and psychical force. There are more nerves between the brain and the hand than in any other portion of the system; and some scientists go so far as to declare that thought is impossible without the hands feeling its influence.

Whatever may be the differences of opinion in respect to the claims of its advocates that Palmistry is entitled to recognition as a science, and that the future may be forecast from the lines in the palm, most people who have given the subject sufficient attention to enable them to form an intelligent opinion will agree that certain peculiarities of the hand, in form, development, and markings, do indicate, more or less accurately, certain traits of character. That these fundamental principles on which the palmists base their claims are not recognized always as valid, is doubtless due to the fact that the very term itself suggests to many minds only the wiles of the gypsy and the charlatan; but no less an authority than Job has declared that " God has placed signs in the hands of all men, that every man may know his work." This natural prejudice, however, should not prevent the recognition of whatever good there may be in the system; and for this reason, as well as on account of the widespread and growing interest in the subject, a brief statement of the main principles on which the cult of

palmistry, or cheirosophy, is based, seems appropriate. Such statement need not be understool, however, as an endorsement by the writer of everything contained in it. The origin of palmistry antedates the earliest human records, and in the remotest period of Aryan civilization it had even acquired a literature of its own, fragments of which are still extant. It was known to the Hindus before Greece or Israel began to write their history by a record of days. The Joshi caste of India has practiced and followed the art from time immemorial to the present day.

In one of the old cave temples which belong to the ruins of ancient Hindustan, Cheiro was permitted to examine and study a most curious book upon palmistry, of enormous size, the leaves of which were made of human skin, pieced together in an extremely ingenious manner. It contained a great many illustrations, very well drawn, with records of how, when, and where particular marks and lines had been verified and proved correct. The pages were glazed with a compound, supposed to be made of herbs, which had rendered them absolutely invulnerable to the ravages of Time. The writing was done with a singularly brilliant red fluid, which also bade defiance to age. The book dated evidently from three periods, representing changes and growth in the language, even the learned Brahmans being unable to decipher the earliest portions, and its antiquity is beyond question.

Palmistry flourished among the Greeks and was held in honor by the greatest of her philosophers. Anaxagoras taught and practiced it four centuries before Christ; and Hispanus discovered, on an altar dedicated to Hermes, a book on cheiromancy written in gold letters, which he sent as a present to Alexander the Great, as "a study worthy the attention of an elevated and inquiring mind."

Cheiromancy—from the Greek *cheir*, the hand—is the art of reading the lines and markings of the palm; while cheirognomy has to do with the form of the different mem-

bers of the hand, studying their relation to disposition and character; and the palmist should be thoroughly versed in both branches, for only a very superficial knowledge can be gained by studying them separately.

The palmist D'Arpentigny defines seven types or classes of hands: "The elementary or large-palmed hands [being the lowest type]; the necessary [active] or spatulate hand; the artistic or conical hand; the useful or square hand; the philosophic or knotted hand; the psychic or pointed hand; and the mixed hand; each one having a natural correspondence to temperament." The important point in the elementary hand is the proportionate length of palm and fingers; the longer the fingers the better the hand; the larger the palm the more the animal nature rules. This hand has few lines, and belongs to the most undisciplined and the lowest civilization.

The spatulate is the energetic, enterprising hand, and belongs to discoverers, inventors, and all those restless people whose love of action drives them into new ways and new paths; the palm is broader at the base and the fingers at the tips. Cheiro says: "It is from this hand that we get not only our great discoverers and engineers, but also the whole army of men and women we are pleased to call cranks, simply because they will not follow the rut made by the centuries of sheep that have gone before them. Such men and women with the spatulate hands are the advance agents of thought. They are, it is true, before their time; they are often wrong in the way they set about their work; but they are, as a rule, the heralds of some new thought or life that will, years later, give life to their fellow-men."

The artistic is one of the most attractive hands, graceful in shape, delicate in contour, the palm being slightly tapering, and the fingers broad at the base with tapering nail-phalanges. People with conic hands are impressionable, impetuous, generous, and emotional. The type is interesting, and according to its modifications is a harbinger of

success, or that measure of it which stops just short of achievement for want of perseverance.

The square hand is square in all its contours; square at the wrist, at the base of the fingers, and even the finger-tips are square. This type indicates an orderly nature, but apt to be hide-bound in reverence for traditional opinion. People with this type of hand are practical, and material things are to them the only realities. Perseverance and tenacity do for them what enthusiasm does for others, and they win by sheer force of determination and steady application. Life is hard, much of a treadmill, to them, and they miss the joy of occasional glimpses through rose-colored spectacles. There are, however, many modifications, or it would be better to say developments, of the square hand which place it among the highest types; as when the square palm is united with knotty, spatulate, or conic fingers. From these we draw our architects, engineers, and practical inventors; and the most successful artists in every field of endeavor, their enthusiasm and imagination having the necessary balance of common sense and perseverance to carry them to their goal.

The philosophic hand, whose name explains its character, is generally long and rather angular; its bony fingers are tipped with long nails, and the knuckles are knotted with thought. It is an ambitious hand, seeking power through knowledge, and studying mankind and all the mysteries of life. "Theirs is the cloudland of thought, where the dreaded grub-worm of materialism dare not follow." In contact with their fellows, they are silent and secretive, and they have no love for the hurly-burly crowd. The Brahmans, Yogis, and other mystics of India possess such hands, which abound among Oriental people; but interesting Occidental examples of men possessing these hands are Tennyson, Cardinal Manning, and Cardinal Newman.

The psychic hand has the most beautiful contour of all

types, but is not to be coveted, as it indicates a nature in no way armed for the battle of life. It is long, narrow, and delicate to fragility, and the tapering fingers are tipped with almond-shaped nails. With a love for the beautiful and especial sensitiveness to color, this character possesses neither logic nor the sense of order, and is swayed like a reed by the opinions of others. Such people are devotional, being affected by form, and questioning not for reasons; thus their religion will be decided by environment. Though their intuitive faculties are highly developed, they are credulous and easily imposed upon. Cheiro considers this a most unfortunate hand, and gives special emphasis to the opinion that the lives of children possessing such hands are ruined "by the ignorance and stupidity of the parents" who try to fit a round knot into a square hole; and he concludes with this grave warning: "There is no question but that the asylums of the world are largely filled by the utter inability of parents for such a position of responsibility; and the sooner this fact is recognized, the better."

The mixed hand is so called because it cannot be classified under any of the other types, but is a mingling of their characteristics; the five fingers, even, may be of as many different types. It is the hand of ideas, of versatility, and too often, unfortunately, of erratic purpose. But it has to be studied in its entirety in order to describe its character and predisposition. It may be said that, as a rule, the mixed hand gives variety to character, but the pure type confers greater strength in a given direction.

Fingers that are flexible and supple, falling always wide apart, indicate quickness of impressions, and adaptability to circumstances. When they are held close together and the thumb is set high on the hand, absence of generosity and consideration for others is signified. The set of the thumb away from the hand, peculiar to Northern races, gives freedom of will and independence, through its separation from the other mounts; and if it turns slightly back

in either the first or second phalanx, it indicates generosity. Excess of this marks extravagance, but may be controlled by a good head-line. As will be seen by consulting the chart of the hand, the thumb gives two of the most important indications in reading character, for in it lie the marks of the will and the intellect. According as the first, or nail, phalanx and the second are well developed is the character a strong one, for reason without force of will is always irresolute and fails in most undertakings; while a strong will lacking the control of reason leads to much tribulation and sorrow. A large, well-developed thumb thus indicates a prompt, decisive mind, ready to take the initiative, and conquer obstacles by sheer force of determination. It is not easily led into temptation, and gives power of resistance and good judgment.

Excess of development is, however, as unfortunate as want of it; and too large a thumb indicates obstinacy, and usually marks the overbearing, stern nature. The small thumb yields to sentiment, loves the beautiful and poetic, and is easily swayed. The thumb was sacred to Venus, according to the Chaldean sages; therefore, the root of the thumb is called the Mount of Venus. Well-developed it indicates grace, love of beautiful forms, and an appreciation of all that gives pleasure to the senses, together with a desire to please, to be loved, and benevolence, charity, and tenderness. If this mount be depressed, thin, and insignificant, the absence of these qualities is indicated; while its excess is a mark of their exaggeration into grave faults, which, unrestrained by good head-lines and reason phalanges, leads to sensuality, coquetry, vanity, and idleness.

"The thumb is the king of the hand, uniting the will, logic, love, and source of love. . . . It stands like a lieutenant between the will and the fingers, to forward the message and guide the corresponding action."

In ancient lore, the planets were believed to control special fingers which were named after them, and the slight

protuberance at the base was correspondingly named. Thus, the first finger represents Jupiter, and the mount at its base is the Mount of Jupiter (See chart). When these mounts are well-placed, and clearly but not exaggeratedly defined, the best qualities of the planet are indicated. If not prominent their absence is betrayed; and if the mount is replaced by a hollow the opposite faults are indicated. If misplaced, inclining to a sister mount, it shares in the qualities or defects of the latter, being influenced by it. And so, too, if the tip of a finger bends towards its neighbor it is swayed by it.

A well-placed Mount of Jupiter endows the subject with religious instincts, ambition, proper pride, honors, gayety, success in life, happy marriage, and a cheerful, rather impetuous temperament. In excess, superstition takes the place of religion; the pride is excessive, love of power for itself; and vanity and love of display hold sway. Its absence causes indolence, irreligion, egotism, and want of dignity.

The influence of Saturn, the planet of fatality, if favorable, gives prudence, wisdom, patience, and success; and a well-developed, well-placed Mount of Saturn, indicating the possession of these qualities, is a most desirable feature to find in the hand. When in excess, this influence causes sadness, taciturnity, asceticism, and dread of the after-life. Its absence marks an utterly insignificant life. Thus, Saturn is believed to give extreme misfortune, or extreme good fortune, according to the development of the mount and the signs and lines seen upon it, together with the Saturnian, or Fate, Line.

The ring-finger is sacred to Apollo, or the Sun, and the development of its mount, well-placed, indicates a taste for the arts and love of literature; which, according to temperament, will give an aptitude in some one or more; and, according to the lines of influence, success in them. In excess, love of show, extravagance, frivolity, and vain-

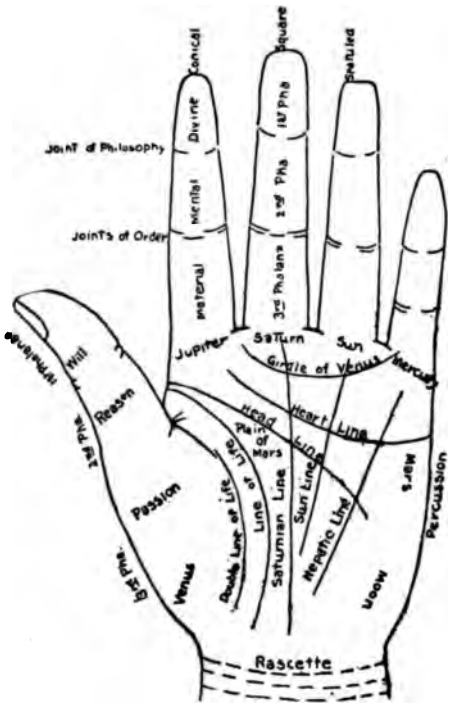
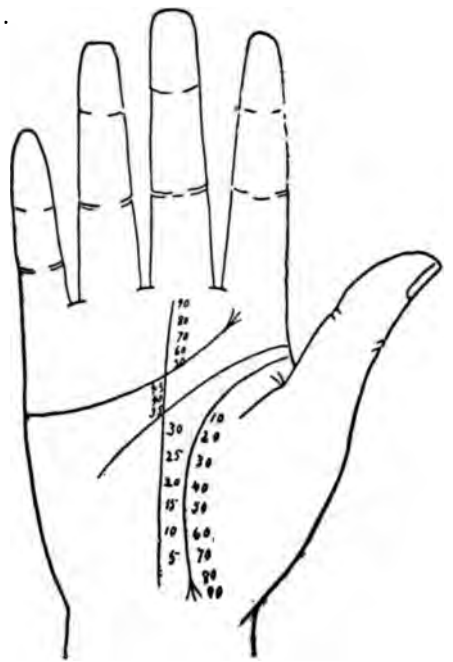


CHART OF THE HAND.



AGE AS COMPUTED ON LINES OF LIFE AND FATE.

gloriousness are indicated, and a disposition to accomplish ambitious ends at any cost. The absence of the mount implies a purely material existence,—"A life without color, a day without sunlight!"

Though we are wont to speak of the fourth as the "little" finger, it is under the important influence of Mercury, and its good development is most significant; indicating, as it does, intelligence, energy, love of activity, success in science and in occult studies, love of commerce and mental labor, and promptitude in action and thought. But, alas! Mercury is also the "God of rogues," and in excess it gives impudence, thievish propensities, lying, falsehood, and bad faith; absence of the mount indicates no aptitude for mental work,—a negative existence, unless other mounts supply qualities which overbalance its deficit.

The Mount of Mars, at the side of the hand (See chart), is just below the Mount of Mercury, and when well-developed indicates courage, ardor, resolution, self-government, coolness in danger, and devotion. It is only when it greatly predominates that its influence degenerates into quarrelsomeness, tyranny, injustice, and revenge; and its absence implies cowardice and want of self-command.

The Mount of the Moon, at the base of the hand, opposite that of Venus, exercises a strong influence over the imagination, and this influence is increased in those persons born near midnight, who are extremely imaginative, "subject to see visions, dream dreams"; they love mystery, solitude, and meditation, are sensitive to harmony, and suffer from discord and noise. In excess, caprice, morbid melancholy, fantastic imagination, superstition, fanaticism, and brain-troubles are indicated; while its absence marks a matter-of-fact, literal character, barren of original thought and all appreciation of romance and poetry.

The cheirosophist explains the development of the mounts according to the supply of nerve-force which they receive from the planet influencing them; and they are by

separated from the Line of Life gives audacity and enthusiasm, and, therefore, success."

When any line in the hand is chained in small lines or links it detracts from the good qualities of the line, indicating a want of fixedness of purpose. A broken Head-line is an indication of extreme vacillation; and headaches are marked by a chained line; while islands denote worry and anxiety. The turning-up of this line towards any of the mounts indicates undue influence from them.

The Line of the Heart runs along at the foot of the finger-mounts, and should be clear, well-colored, and extend across the palm to the percussion of the hand, rising on the Mount of Jupiter, and if forked there all the better. The higher its rise on Jupiter, the stronger and purer the heart affections; when it turns around the base of this mount, almost forming a circle, the ancient Cheiromancists called it "Solomon's Ring," and considered it indicated an aptitude for the occult sciences. If the Heart-line ends under Saturn it hints of more material than ideal regard; if without branches and alike in both hands it indicates a short life; a break in it may signify disease of the heart, or a disastrous love affair. A chained line is often interpreted as signifying fickleness; but is also an indication of weak heart-action and palpitation, especially if a broken Girdle of Venus (See chart) is present. Such marks indicate extreme nervous irritability and hysteria.

The Line of Fate, or Saturnian Line, may start from the Rascette, from the Line of Life, from the Plain of Mars (See chart), and from the Moon's mount. In the first position, if it runs straight to its mount, tracing a deep, clear furrow there, ease and happiness with extreme good fortune are indicated. Starting from the Line of Life, the qualities of that line will be shared, and happiness and fortune will depend on self-effort. When this line starts from the Plain of Mars, fortune, if attained, will be the reward of struggles and difficulties; and in the fourth case, if it

launches directly to its goal on Saturn's Mount, without devious twists and turns, it indicates fortune and happiness through the favor of the opposite sex. If this moon-influenced line loses itself in the Heart-line and that tends to Jupiter, it promises an advantageous and happy marriage. Should the Fate-line cut down through the Rascette it portends sorrow and trouble; if it extends up into the third phalanx of the Saturnian finger, it shows sinister influence from that planet. When it is arrested by the Head-line, fortune is interrupted by an error of judgment or by brain disease. Rising from the Quadrangle, success comes late in life after surmounting many obstacles. When it inclines towards other mounts than its own their strong influence is indicated; and so in all lines, every divergence from the conventional or typically perfect line shows by its direction the nature of the influence; and according to the development of the mounts, it may be good or evil.

The Line of the Sun is also called the Line of Apollo, of Brilliancy, and of Fortune; the first and the last are the most common names, but some Cheirosophists create confusion by calling the Saturnian Line also the Line of Fortune. The Line of the Sun may start low down in the hand, rising from the Life-line, Mount of the Moon, or Plain of Mars. It is absent from many hands, but usually found in a fortunate one. When straight and well-defined, tracing a furrow in its mount, but not cutting into the finger, it portends celebrity in literature or art,—poetry, painting, sculpture, or music. Other characteristics of the hand will indicate the special direction of talent,—whether influenced by color, form, or sound; and according to the strength of the line success, celebrity, and wealth are assured. When other lines and mounts are favorable it is truly a Line of Fortune, but in a bad hand it may indicate an ill-use of talents. When visible, but much broken, it betrays the jack-of-all-trades, who succeeds in none, and a diversity of talent which, for want of perseverance in one direction, fails

to achieve success. Lines crossing the Line of the Sun are obstacles, but if they do not arrest it, they are overcome.

The Hepatic-line, also called the Line of Health and of the Liver, rises at or above the wrist, near the Life-line, and goes upward toward the Mount of Mercury. If clear, straight, and well-defined, it denotes good health, great power of memory, success in business, good blood, and harmony in the fluids; when winding and undulating, the reverse is indicated. Weakness of heart-action is betrayed if it connects with the Line of Life; and if very red where it crosses the Head-line, there is danger of apoplexy. Should this line take a curved direction, forming a sort of half-circle round the mounts of Mercury and the Moon, it is called the Line of Presentiment; and when it is clear and well-defined the subject would better act upon first impressions, which are intuitions, and usually the best. If so marked in both hands, the gift of second sight is indicated. If there are breaks in this line near the Head-line, or it unites with it under bad conditions, care should be exercised not to overtax the brain. A twisted Hepatic-line indicates biliousness and indigestion; and when of a red color, a tendency to fevers.

The Girdle of Venus (See chart) in a bad hand is a very unfavorable sign, indicating unrestrained immoral tendencies; breaks in the line intensify its signification; but there are always possible modifications of bad signs, and a good Head-line with favorable mount-developments would show that reason controlled the passions and diverted their strength to higher purpose. This line is frequently absent, but when it is accompanied by large mounts of Venus and the Moon an emotional, hysterical temperament is indicated.

A most auspicious sign is the magic bracelet or triple Rascette-lines, every one having the value of thirty years of life, and when clear and well-marked indicating fortune and health. When the upper bracelet is chained, a long life

of labor is indicated, but with the encouragement that it will bring competency and ease at its close.

It is impossible to give more than general hints concerning the lines of influence, which, according to their position, are marks of good or evil omen. Lines taking an upward direction are usually good, and downward, unlucky. The hand of the person leading an active life with many absorbing interests, who is emotional and thinks deeply, bears many of these lines, which must be studied according to their direction, the lines from which they spring or cross, and the mounts which they affect. Upward branches from the Line of Life towards the Plain of Mars are struggles, ending in riches and honors for old age. A line raying upward from this line to the Mount of Jupiter is an omen of success through personal effort; and if such line starts down on the Venus Mount it is read by many Cheirosophists as promising a rich and happy marriage. A star on the latter mount strengthens the indication.

Stars are marks of events or circumstances beyond our control, and are good or evil according to their position. Jupiter being a favorable planet, they indicate there distinction and honor; but on the other mounts they bring some sort of disaster: on the Plain of Mars, honors and military glory are indicated. A cross, also, is usually unfavorable, but on Jupiter becomes another marriage-sign, and two crosses indicate two marriages. On Saturn it accentuates the malefic influence of that planet; and on the Sun's Mount indicates a check to artistic ambition. A circle on any of the mounts, and especially on that of the Sun, signifies success in the favorable qualities of the mount; but on the lines it is unfavorable, threatening physical disability. A square signifies power and energy, except upon Venus, when it portends imprisonment; when it encloses a break in main lines it preserves from threatened disaster. A triangle signifies aptitudes, and is therefore almost invariably favorable; on the Moon only is danger

threatened, her influence over vast bodies of water being such that the *aptitude* is to be drowned; yet Saint-Germain says that the triangle even on the Moon indicates "Wisdom in the use of high imaginative faculties."

The letter M formed more or less regularly in every hand by the three principal lines of Life, Head, and Heart, represents the three worlds, material, natural, and Divine. Thus, the thumb and Venus surrounded by the Line of Life represent the world of sense; the Line of the Head stretching across the Plain of Mars, depicts the ever-constant combat between love and reason in existence,—the natural world; and the Heart-line surrounds the mounts, "all of which are especially influenced by the astral light, or fluid, emanating from the planets." It will be seen by reference to the chart, that the phalanges of the fingers are correspondingly divided and influenced, and upon their development depends the reading. Though this is but a sketch of the mystery of the hand, it makes the fact plain that to those versed in it the hand is eloquent with meaning.

It has been said that "man speaks with three tongues—the word, the tone, and the gesture. The word is the least expressive and last to be trusted in this trinity." And in his "*Comédie Humaine*," Balzac says: "We acquire the faculty of imposing silence upon our lips, upon our eyes, upon our eyebrows, and upon our foreheads; the hand alone does not dissemble—no feature is more expressive than the hand." Grace and ease of gesture are the result of such absolute control that the movements become involuntary, dictated by feeling,—that is, the emotion of the moment,—without forethought; and the direct path to this graceful dexterity, which becomes second nature, is open to every intelligent and persevering woman through the practice of physical-culture exercises.

No part of the body responds more promptly or with greater sympathy to the Delsartian method than the hands, because it is the highest method, combining ethical and

mental with physical culture. No graceful gesture is possible with a hand which cannot be vitalized and devitalized (that is, have the nervous tension withdrawn) at will, and always when inactive it should be devitalized. Even the angular hand loses its stiffness when relaxed in repose, and one of the ways in which women waste nerve-force is to keep the motionless hand vitalized with as grim determination as if they were clinging to a life line. The special exercises for the hands (fully explaining devitalizing) will be found in the chapter on physical culture, but it will be understood that they do not teach gesture. To be effective, gestures must be spontaneous, being the outward expression of the inward emotion. When the hands are made flexible and you have complete control of them you will use them so naturally that the method or art by which you acquire the ability will be entirely concealed as all mechanism should be. Whistler says: "Finished work should show no trace of work."

These hints, though, may be helpful guides: Gestures should always proceed from the *solar plexus* outward, and as your thoughts pass out through your fingers, the closing part of the gesture is, consequently, the opening or spreading of these. Movements which display effort have in them no element of dignity or grace. We should never *take* things from people, we should *receive* them; and this is just the difference between grace and awkwardness. All constrained, tense movements must be shunned.

Not all beauty of the hand, however, lies in its gestures; it has also a beauty of repose. And I want to emphasize this, for many women—yes, and men, too—are grievous offenders in the matter of indulging in what might be recognized as perpetual motion of the hands; making a thousand and one futile motions which are utterly devoid of object, utility, or reason. Good form frowns on these severely, and would, if she could, rebuke every victim of this deplorable habit with a "Tut, tut, child, do be still!"

These absolutely senseless motions are quite generally supposed to be the result of nervousness; but, on the contrary, they not only themselves increase nervousness, but are often the originating cause, being a constant strain upon the nerves. In the seclusion of your private room, break yourself of these mannerisms if you are addicted to them: Fussing with your hair, pulling your ears, rubbing your cheeks or eyes, slipping finger-rings up and down, or fussing with any other ornament. Keep your hands away from your head and face, and never finger any part of your attire; and train them to the beauty of repose when their activity is not necessary. Don't engage in idle drumming with the fingers upon the nearest object; and don't, I entreat you, rub and pound the arms of a chair in which you may be seated, as if it were your occupation to polish them. Many a chair has been worn out in this way before real use would have defaced it, so this caution will find favor with the thrifty housewife.

If you must have some outlet for part of this superfluous energy, always carry woman's weapon, a fan, which will protect you from committing some of the *gaucheries* enumerated. But don't let it become a snare in its turn, and acquire the absurd habit of tapping your lips with it or gnawing it. Men sometimes use their canes in this way. The real root of these awkward and annoying habits lies in self-consciousness, the *mauvaise honte* of the French; and the true remedy is such interest in others that we forget ourselves. When these nervous movements become habitual they are, of course, performed unconsciously and are the harder to correct, and any tendency in childhood to indulge in them should be restrained.

For that phase of awkward self-consciousness which is described as " feeling as if you were all hands," an ingenious Parisian professor of deportment prescribed, with great success, this remedy, founded upon the belief that to secure graceful control of the hands in both action and inaction,

it was only necessary to forget them: Drop the arms in front of you and wring the hands violently for five minutes. The theory is that this so numbs them that they lose consciousness for a time and do not remind the too-conscious self of their existence, and this brief forgetfulness gives the needed confidence which banishes awkwardness. Many persons have tried this with perfect success, after a month's daily practice of the exercise declaring that they had entirely overcome the uncomfortable abnormal consciousness which was the source of the trouble, and at the same time gained surprising and gratifying ease in their movements and gestures.

The skin of the hand, in its color and texture, is only secondary in importance to that of the face; and, while it is not liable to many of the imperfections and blemishes which threaten the latter, it is often exposed to very hard usage, and constant care is required to keep it in good condition. The attraction the hand gains, however, through this care, amply repays every woman for the trouble. Nothing more surely betrays an absence of daintiness in personal care than neglect of the hands; and though, naturally, women who do their own housework find it more difficult than others to keep their hands soft, white, and unblemished, it yet is even possible for them; and the comfort and mental satisfaction thus derived are well worth the precautions necessary.

All extremes of temperature, and especially the splashing the hands alternately in hot and in cold water, should be avoided; yet if it is absolutely necessary to thrust the hands in extremely hot water, holding them first for a few moments on ice will protect them. As a rule, they should not be put in either very hot or very cold water. Severe cold is an enemy to woman in a great many ways, deranging her circulation, and thereby entailing many evils. And in this connection Hippocrates' seventeenth aphorism is timely: "Cold is inimical to the bones, the teeth, the

nerves, the brain, and the spinal marrow, but heat is beneficial."

Immaculate cleanliness is, of course, a first and imperative law. Never wash your hands except you do it thoroughly; continually dabbing them into cold water, just "rinsing," grinds the dirt in and is ruinous to the texture of the skin, making it rough, coarse, and red. Tepid or warm water should be used, and good soap is an absolute necessity. Soft water is also important, and if you haven't it you should keep a bottle of ammonia or a box of powdered borax on the toilet-stand. A few drops of the one or a saltspoonful of the other will soften a bowl of hard water.

Cheap soaps are strong with alkali, and their use will ruin the best skin. To preserve or promote its delicacy a mild, pure, and emollient soap, one abounding in oil,—and best of all, vegetable oil—is necessary. As women through knowledge of its importance have grown more exigeant concerning its purity, manufacturers have improved the quality of their products and it is now a comparatively simple matter to secure good soap. Many complexion-specialists insist upon the use of white Castile soap, but though I have always used it for my teeth, the odor it leaves upon the hands is so disagreeable to me that I never use it for bathing unless chance compels. I have, however, in spite of repugnance to its scent (being by nature an experimenter and investigator), given it a faithful trial and found it did not agree with my skin so well as violet or lavender soaps of standard makes. As a rule the choice should be confined to white or light brown soaps as these are most apt to fill all conditions of purity.

The basis of good toilet-soaps is generally a mixture of eight or nine parts of suet and one part of olive-oil, saponified by caustic soda; or suet-soap or what is known to the trade as best white curd-soap is mixed in like proportion with white Castile soap (olive-oil). A fine almond soap is made of the best white curd and Castile soaps in the pro-

portion of one seventh of the latter to six sevenths of the former, and perfumed with one ounce of essential oil of almonds to four and a half pounds of soap. The soaps are shaved and melted in a *bain-marie;* if new and consequently moist no water is needed, but if old, a little may be required; keep covered while heating, and when thoroughly blended cool a little, then add the perfumed oil. Pour into moulds to harden. In the same manner the following are made:

CINNAMON SOAP.

White curd soap	3 pounds
Palm-oil soap	1¾ pounds
White Castile soap	½ pound
Oil of cinnamon	¾ ounce
Oil of bergamot	1 drachm
Oil of sassafras	1 drachm
Oil of lavender (Mitcham)	½ drachm

The English maker whose formula this is, colors the mixture with yellow ochre, but that is better left out. Insist upon having oil of cinnamon, for which, in inferior qualities, oil of cassia is often substituted, greatly to the loss of the antiseptic value of the soap.

VIOLET SOAP.

Palm-oil soap	3 pounds
Olive-oil soap	1 pound
White curd soap	3 pounds
Tincture of orris-root	1 ounce
Essence of cassie	1 ounce

This can be colored with tincture of litmus, or a little indigo. The best lavender soap has for its basis the familiar brown Windsor soap and is scented with Mitcham oil of lavender—a half-ounce to three pounds of soap—supported with a soupçon of oil of bergamot and essences of musk and ambergris; and it, too, is colored with indigo or tincture of litmus. Rondeletia soap can be made of the same basis and scented with one ounce of the essence of ron-

deletia—formula for which is given in the chapter on perfumes—or with equal proportions of the oils of lavender and cloves.

A very fine rose soap is made as follows:

SAVON À LA ROSE.

White Castile soap (pure)	3 pounds
White curd soap	2 pounds
Distilled water	¼ pint

Melt together in a copper-pan set in a water-bath, or in a *bain-marie,* and add of

Vermilion (powdered)	¼ ounce

After the mixture has cooled a little stir in:

Otto of roses	1 drachm
Oil of bergamot	1½ drachms
Oil of cinnamon	¾ drachm
Oil of cloves	¾ drachm
Oil of rose-geranium	½ drachm

A famous Continental soap, said to be in use at the courts of Europe, is made of pure olive-oil. One quart of oil is put into a large porcelain kettle and brought to a boiling-point, when three pints of boiling water, in which four tablespoonfuls of refined potash have been previously dissolved (also strained), are poured slowly into it; stir constantly and let the mixture boil slowly—without chance of burning—till it will thicken like jelly when cooled on a marble slab or plate. The stirring should be done with a wooden spoon, and when the soap is partly cooled—before hardening at all—perfume with two drachms each of oil of lavender and cloves, or with oils of verveine and rose-geranium. The tinctures of ambergris and musk, and essences of néroli, jasmine, and rose were used in the old court formulæ. It should be put up in small porcelain jars, and is all the better for being kept six months or a year before using.

Given good soap and soft, warm water as preliminary, the hands should be thoroughly lathered, a brush used upon the nails, and when necessary, to remove stains and grime that resist soap, resort must be had to a little lemon juice or a pumice-stone; rinse and *partially* dry on a towel. Then pour a few drops of perfumed glycerine into the still-moist palms and rub it thoroughly into the hands. Any remaining moisture must be finally dried upon the towel. Sometimes a dash of violet talcum-powder or corn-starch, applied when the glycerine is half-rubbed in, has a very softening effect. Those persons with whom glycerine does not agree can use with almost equal benefit in its place pure honey, which is extremely healing, emollient, and whitening.

This treatment followed systematically, that is, every time the hands are washed, will keep the average hands and normal skin in such perfect condition that recourse to unguents and cosmetic gloves will seldom, if ever, be necessary. Unfortunately there are many sensitive skins which look not only none too well under ordinary treatment, but are easily roughened and reddened by the very slightest exposure to unusual conditions. It goes hard with these hands to pass through the vicissitudes of housework, but care will save even them. Instead of frequently washing them in water, a few drops of palm or olive oil rubbed into them thoroughly, then, dusting with talcum-powder, and a final wiping upon a coarse towel, will cleanse them and protect the flesh from growing callous when wielding the manifold implements of routine work. Such hands must be spared, too, by wearing old, loose, kid gloves for all specially hard or rough work, and never be exposed to cold air without covering.

Many sensitive hands which resent too frequent use of soap take most kindly to saponaceous or detersive powders. An excellent one for whitening and softening the skin, which can be used on the face as well as hands, is

ALMOND POWDER.

Blanched almonds (powdered)	8	ounces
Cuttle-fish bone (powdered)	4	ounces
White Castile soap (powdered)	4	ounces
Orris-root (powdered)	2	ounces
Oil of cloves	½	drachm
Oil of lavender	1	drachm

Mix the orris-root with the almonds, then add the scented oils, stirring in gradually; lastly, add the powdered soap and cuttle-fish bone. This is easily made at home and you have the satisfaction of knowing that the ingredients are all pure. The compounds of bran, strong soap, and almond husks sold under the same name are quite a different thing; and the caution cannot be too strongly emphasized that all cosmetic and toilet preparations should be bought of a reliable chemist.

Still another efficacious powder which, used instead of soap, will whiten and soften the skin of face or hands, is made of two ounces each of powdered marsh-mallow root and carbonate of soda stirred into twelve ounces of barley meal. An excellent English formula for a saponaceous paste which is bleaching in its effects, but must not be used on chapped or bruised hands, is made of two ounces of old Windsor or almond soap, shaved, and dissolved in two ounces of fresh lemon-juice; when thoroughly mingled, add one ounce each of oil of bitter almonds and glycerine and a half-ounce of carbonate of potassium.

The most delicate preparations for sensitive hands are the farinaceous pastes, which being free from alkali form an emulsion with water and are next in their beautifying properties to a milk bath.

PÂTE D'AMANDES AU MIEL.

Honey	½	pound
Expressed oil of almond	½	pound
Bitter almonds (blanched and pow'd)	¼	pound
Yolk of eggs	8	yolks

Oil of bergamot	1 drachm
Oil of lemon	¾ drachm
Oil of cloves	¾ drachm

Beat the yolks and add them to the honey and oils, then stir in the bitter almonds.

SAPONACEOUS COSMETIC PASTE.

White Castile soap (shaved fine)	½ pound
Almond paste	1 pound
Carbonate of potassium	1 ounce
Oil of lavender (Mitcham)	1 drachm
Oil of citron	½ drachm
Oil of cloves	½ drachm
Oil of bergamot	1 drachm

Blanche the almonds in boiling water, bruise them in a mortar, and put them with the soap in a *bain-marie* to heat, beating all into a smooth paste as the soap melts; then add the potassium, and after the mixture is partially cooled stir in the oils. Keep in porcelain jars. A similar formula replaces the almonds with a like quantity of horse-chestnuts —treated similarly—and adds a half-ounce of sugar.

A very simple French formula for almond powder which is highly commended is the following:

POUDRE D'AMANDES AMÈRES.

Bitter almonds	½ pound
Rice powder	4½ ounces
Carbonate of potassium	3 drachms
Oil of bergamot	1½ drachms

A detergent and bleaching perfumed water which is beneficial for the face and neck as well as the hands is the following:

VIENNESE COSMETIC WATER.

Bruised almonds	1 ounce
Orange-flower water	4 ounces
Rose-water	4 ounces
Borate of soda (borax)	½ drachm
Spirits of benzoin	1 drachm

Make the first three into an emulsion; let it stand twenty-four hours, filter, add the soda, agitate till dissolved; then add the benzoin, drop by drop, under continual agitation. Use in the bath-water, or apply undiluted to discolorations; and rub into the moist hands in connection with glycerine or honey to refine coarse, red skin.

Not all the care in the world, however, lavished upon the skin of the hand will make it beautiful unless the nails receive special attention and training. With regard to them Victor Hugo said: "God took His softest clay and His purest colors and made a fragile jewel, mysterious and caressing—the fingers of a woman—then he fell asleep. The Devil awoke, and at the end of that rosy finger put—a nail." Certainly his Satanic Majesty's handicraft is suggested by some of the uncouth, ill-cared-for nails which so frequently offend our eyes. And the pity of it is that the folk who are the worst offenders in this respect are the hardest to reach with advice, criticism, or admonition. They are too often encased in a tough, inelastic conceit that justifies to themselves any carelessness of personal habit.

The condition of the nails in their shape and color and sheen is the crowning attraction of a beautiful hand; and as they show the slightest neglect, we are apt to judge of a stranger's culture and refinement by these indisputable evidences of personal care and fastidiousness. Among the small mercies for which we ought to be devoutly thankful is the passing of that hideous and idiotic fad, the bird's-claw nail. That shocking deformity had a longer vogue than the victims of the disgusting mania will any of them wish to acknowledge, now that "form" has voted it a back number; and it is hard to understand under what hallucination the fashion could ever have been viewed with the least favor.

The dainty woman cannot take too good care of her nails, as they either beautify or disfigure the fingers, and an attractive hand is impossible without pretty nails. They im-

prove rapidly with culture, which transforms the roughest, ugliest-shaped, and dullest-hued nails into sheeny, transparent, shell-like, almond-shaped tips. Every woman endowed with average common sense and adaptability can train herself to be her own manicure, and she does not even need an elaborately fitted manicure-case for the dainty task. Four implements suffice,—and, indeed, three are all that are absolutely necessary,—and the simplest do the work as effectively as the most expensive. The slender, sharp, curved scissors, a nail-file, and a chamois-covered polisher will answer all purposes, but an orange-stick may be added for keeping the cuticle, or scarf-skin, back from the nail.

As a preparation for manicuring the nails, the fingers should be held for a few minutes in a bowl of warm, soapy water in which a little tincture of benzoin has been poured, or aromatic vinegar or perfumed water. This softens the nails so they can be cut or filed without breaking. They should be kept just the length of the fingers, and trimmed in a graceful, oval curve; in this way they serve the purpose for which Nature intended them, to protect the sensitive tip of the finger and give it strength in holding. After trimming the nails, and while they are still soft from the action of the aromatic warm water, push the scarf-skin down closely about the roots, where the delicate pearly-hued lunula should, by showing distinctly, give the crowning proof of well-cared-for nails. If this operation has been neglected and the scarf-skin has grown up on the nail, do not trim it off as some direct, for thereby trouble begins. It will take time and patience to correct the neglect, but a few weeks' attention will accomplish wonders. Push the skin back gently and carefully, with the pointed tip of your file, or wanting this use the thumb-nail of your other hand; if necessary lift the skin from the nail, but avoid breaking it as it will almost certainly result in a painful and harassing crop of agnails,—commonly called hangnails.

If tinted cosmetic powder be used on the nails, it must

pressure between the thumb and index-finger of the other hand; press back the membrane from every nail with the thumb-nail wrapped in the towel; and when perfectly dry, press the tips of the fingers firmly downwards, towards the hand, as if smoothing on a pair of new gloves. This will correct the tendency of the flesh to intrude upon the nail, reduce puffness there, and, if begun in childhood, greatly influence the shape of the fingers. Children are such imitative monkeys that they need watching to prevent their distorting their hands by odd tricks of twisting the joints. These habits are very easily acquired in utter unconsciousness of their after-effects, and often cause curiously misshapen and enlarged knuckles. Many crooked noses, ill-shaped mouths, and wide-flapping ears are caused by similar tricks of twisting and pulling these easily moulded members into grotesque shapes; and the gentle admonition of wise forethought will save after-regrets.

The white spots which sometimes deface the nails are caused by a stoppage in the flow of the nutrient juices. A paste made of equal parts of refined pitch, or of turpentine, and myrrh melted and mixed together and spread upon the nails at night will remove these. A little olive-oil applied in the morning will take it off. A bruised nail should be held in as hot water as can be borne for a half-hour. This will usually prevent the blood's settling under it, and turning black or blue.

Young girls and delicate women whose physical condition is disturbed are frequently annoyed by abnormal perspiration from the hands, which are so cold and moist to the touch that contact with them is most disagreeable. A very simple remedy which will in many cases correct the trouble is to bathe them several times daily with this solution:

FOR MOIST HANDS.

Cologne	4 ounces
Tincture of belladonna	½ ounce

After rubbing this in, powder with orris-root or with violet talcum-powder. More serious cases will find a remedy in the following lotion, which is also efficacious for the face, arresting abnormal greasiness:

ASTRINGENT LOTION.

Rose-water	6	ounces
Elder-flower water	2	ounces
Simple tincture of benzoin	½	ounce
Tannic acid	10	grains

An effective powder for the same purpose, to be used on the hands, with or without the above, is this:

POWDER FOR MOIST HANDS.

Oxide of zinc	2	drachms
Boracic acid	2	drachms
Lycopodium powder	4	drachms
Starch	1	ounce
Orris-root (powdered)	½	ounce

The addition of a little aromatic vinegar or spirits of camphor to the water in which such hands are bathed is beneficial. A French formula for a stimulating lotion which should be rubbed into the palms very thoroughly is commended by André-Valdès, but it would be so disagreeable to some women that the remedy would seem worse than the disease:

STIMULATING LOTION.

Isinglass	2 drachms
Turpentine	2 drachms
Oxide of zinc ointment	4 drachms

After brisk friction, powder with orris-root or violet talcum-powder.

Dry mustard moistened with a little water or rubbed dry upon damp hands is an excellent agent for cleansing them after handling disagreeable or strongly odorous substances, such as onions, codfish, cod-liver oil, musk, or valerianic

acid and all its salts. The only infallible stain-eradicator is oxalic acid, a solution of which should be kept at hand, in a distinctly recognizable bottle—that cannot be confounded with another—marked with red ink. A pumice-stone, too, will take off nearly all stains, including ink, from the nails as well as skin. It is useful also to smooth all minor indurations, as the marks of thread on the first finger when sewing.

A blister should not be broken, but the water may be let out by running through it a needle threaded with a bit of white wool soaked in an antiseptic solution. Leave a bit of the wool in the blister: it will absorb the water, prevent the entrance of any grit or dirt, and when the new skin forms beneath, the old skin will peel off.

The pain of a superficial burn can be immediately allayed by dusting it over with charcoal powder, and it will quickly heal it. For slight cuts and bruises, there is no more healing lotion than diluted solution of carbolic-acid mixed with glycerine in the proportion of one ounce of the acid to a half-ounce of glycerine.

More severe burns and painful scalding when an extended surface is involved can be soothed and healed with one of these lotions:

NO. 1. FOR BURNS AND SCALDS.

Creosote	15	drops
Cocaine, hydrochlorate	10	grains
Lime-water	½	pint
Linseed oil	½	pint

Or:

NO. 2.

Boracic acid	2	drachms
Glycerine	2	ounces
Olive-oil	2	ounces

Apply constantly to the surface with soft, old linen, or absorbent cotton; and, at the same time, if necessary, powder with this mixture:

Bicarbonate of sodium.....	½ ounce
Subnitrate of bismuth.....	½ ounce

It is on record that an English physician cured a very severe case of burning, over the whole of the breast, by applications of ice, which prevented the usual suppurative process and all the trouble which usually attends the cicatrizing of a wound. It healed without leaving any scar.

If through some injury a nail be lost, the tip of the finger should be dipped in warm wax several times till a coat is given it which will protect while encouraging the growth of the new nail.

The inflammation caused by handling poison-ivy is allayed by bathing the parts in a weak alkaline solution—a teaspoonful of soda to a quart of water—or in lime-water. If very painful the addition of a little laudanum will prove a sedative. Bathing with fresh cream is also efficacious.

Chapped hands are usually the result of neglect or carelessness, and their relief will require twice the care and attention, which bestowed daily would have prevented the pain and discomfort. A very soothing remedy is to bathe them at night in a clear pulp made of linseed meal and bitter-almond oil; after rubbing this in gently but thoroughly, rinse in a solution of benzoin,—one part of the tincture to sixteen of hot water,—dry carefully, and powder with violet talcum-powder. A very healing emollient pomade is this:

POMADE FOR CHAPPED HANDS.

Cocoa-butter.....	1 ounce
Oil of sweet almonds.....	1 ounce
Oxide of zinc.....	1 drachm
Borax	1 drachm
Oil of bergamot.....	6 drops

Heat the cocoa-butter and oil of almonds in a *bain-marie*, and when thoroughly blended add the zinc and borax; stir as it cools, and add the oil of bergamot last. Oxide of zinc

ointment is also very healing, being astringent, stimulating, and desiccative. It is so useful in all cases of excoriation, chaps, moist eruptions, burns, and scalds that it is advisable to have it always at hand. It is made by adding one part of the oxide of zinc, in very fine powder, to six parts of simple ointment. Mix by trituration in an earthen or marble mortar. The simple ointment—*unguentum cetacei*—is the base of most of the so-called cold creams:

SPERMACETI OINTMENT.

Spermaceti	2½ ounces
White wax	1 ounce
Almond oil	½ pint

Mix in a *bain-marie*, as directed for cold creams. A caution with regard to all these mixtures is to melt them at the lowest possible temperature, avoiding any excess of heat. The almond-oil is added last, under continual stirring. Prepare in the same way the following glycerine cream, which is both healing and softening, and protects the skin from the burning effect of sun and wind. Add the glycerine after the oil of almonds; pour in the rose-water in a fine, steady stream, beating the mixture steadily as the water flows in. The perfumed oils are always added last, after the cream is near the congealing point.

GLYCERINE CREAM.

Oil of almonds	½ pint
White wax	5 drachms
Spermaceti	5 drachms
Glycerine	1¾ ounces
Oil of bergamot	1½ drachms
Oil of lemon	1½ drachms
Oil of geranium	1½ drachms
Oil of néroli	40 drops
Oil of cinnamon	40 drops
Rose-water	5 ounces

Those painful inflammatory affections, chilblains, are also

much more easily prevented than cured. When there is a predisposition to them, plenty of exercise to promote healthful circulation of the blood must be had every day. Emollient lotions should always be rubbed into the hands after washing them; if frequently wet, they must be protected from the action of water as much as possible by the use of oils; gloves should be worn whenever possible; and every effort must be made to protect them from severe cold. Before the skin cracks counter-irritants are recommended; as, painting the parts twice a day with strong tincture of iodine, friction with oil of turpentine or camphorated vaseline, or a glycerinated lotion of sal-ammoniac. A powder which has healing virtues and is agreeable to use is made by the following formula:

EMOLLIENT POWDER.

Orris-root (powdered)	3 drachms
Bran	3 drachms
Almond hulls (powdered)	1¼ ounces
Pulverized mustard	4 drachms
Benzoin	½ drachm
Borax	1 drachm
Alum	¾ drachm
Oil of Portugal	15 drops
Oil of bergamot	15. drops

The French physician Dr. Brocq advises that hands afflicted with chilblains be washed always in a warm decoction of walnut leaves; and this treatment is commended to follow: Rub the affected parts with spirits of camphor, and afterwards dust over them this powder:

CHILBLAIN POWDER.

Salicylate of bismuth	2½ drachms
Powdered starch	3⅛ ounces

A cooling lotion to be used at night, followed by the powder, is this:

Glycerine	1½ ounces
Rose-water	1½ ounces
Tannin	1 drachm

Another lotion is made of equal parts of the tinctures of capsicum and opium, which can be applied two or three times daily by wetting bandages in it.

When the chilblains are ulcerated and broken, one of the following lotions may be applied three times a day with linen bandages:

CHILBLAIN LOTION.

Glycerine	1 ounce
Tincture of iodine	20 grains
Tincture of opium	20 grains

Mix and agitate till thoroughly mingled.

HONEY LOTION.

Tincture of catechu	2 ounces
Honey (clear syrup)	1½ ounces
Elder-flower water	7 ounces

The last may be rubbed on, and if bandages are not required, the affected parts may be dusted with one of the healing powders. The following is a celebrated formula for unbroken chilblains:

LEJEUNE'S CHILBLAIN BALSAM.

Iodide of potassium	5 drachms
Solution of diacetate of lead	1 ounce
Tincture of benzoin	¾ ounce
Camphor	1 drachm
Proof spirit (made with rose-water)	2½ ounces

Dissolve camphor in spirits, add other ingredients, and agitate till thoroughly mixed; then add a solution of

Curd-soap	1¼ ounces
Proof spirit (as above)	2½ ounces

To be applied several times daily, according to need, with friction. All of these remedies are also effective for the same trouble in the feet.

Those annoying blemishes, warts, which haunt some hands, and which seem, from their mysterious comings and goings, to be in league with the necromancer, can, it is averred, be driven away by bathing them with the sticky, milky juice of the milk-weed. The mere mention of warts revives the happy madness of childhood with its innocent superstitions and its magic incantations for the disappearance of these wanderers. Only the matter-of-fact person who misses the delicious humor of "Alice in Wonderland" resists the inclination at such times to repeat with mock earnestness some of the magic lore: How that these mysterious shadow-like pests are shy of being talked about, and, withal, a little obstinate, so it is best to take no friend into confidence when you administer the important inunction. For, always, it has been observed that secrecy in the matter secures success. It is said also that these petty blemishes do not take kindly to salt, and that frequent rubbing with it will drive them away. Wet the spots first and let the salt remain on the warts five or ten minutes. Repeat several times. There will be no scar. Touching the warts with lunar caustic—which turns the skin black and must be confined to the blemish it is to eat away—and with acetic acid are more serious remedies which doctors apply; and here is an ointment which acts in a similar manner:

CRISTIANI'S WART POMADE.

Soap cerate	1 ounce
Powdered savin	1 drachm
Powdered verdigris	1 drachm

Spread this on a piece of kid or chamois the size of the wart, and keep on over-night. Repeat if necessary.

Warts are usually confined to the hands, but when there is a large one on the face it would better be treated with electricity, as that is safe and sure and leaves no scar. Al-

most always these blemishes on the face partake somewhat of the nature of a mole and are of more complicated structure than the wart pure and simple; which flits like a shadow and shies away if you rub it with a knotted thread and bury that thread under a rotten stump in a damp place! Can't you remember how your heart went pit-a-pat with every noise of rustling leaf or snapping twig that broke the awesome silence of the woods, and how fast you ran away after you had accomplished the daring deed?

When that constitutional taint, salt rheum—proof of ancestral violation of hygienic laws—manifests itself, a certain cure is promised by the following means: Of pure fresh lard when melted take a half-teacupful, and simmer in it a "small handful" of the inner green bark of common elder till the lard becomes of a green color. Pour through a gravy strainer into ointment boxes. I should add six drops of salicylic acid or ten drops of tincture of benzoin to insure the purity of the ointment and as an antiseptic which must increase its virtues. Apply at night, covering the hands with loose white kid gloves. In the morning wash off in soft warm water, using some of the emollient powders or pastes or else pure Castile soap. A small dose of Epsom salts, dissolved in milk, is recommended to be taken the morning after the second application of the ointment.

When it is desired to whiten and soften the hands with the least delay possible, it is an advantage to wear cosmetic gloves at night. Many bleaching and emollient pastes are compounded for this purpose and spread upon loose kid gloves; but the hands themselves can be coated thickly with the paste and then the gloves drawn on, which is a simpler process:

PASTE FOR COSMETIC GLOVES.

Myrrh	1 ounce
Honey	4 ounces
Yellow wax	2 ounces
Rose-water	6 ounces

Melt the wax in a *bain-marie;* add the myrrh—powdered—while hot; beat thoroughly together, then stir in the honey and rose-water, and sufficient glycerine, little by little, to make a "spreadable paste."

For the same purpose are these:

COSMETIC PASTE.

Oil of sweet almonds	2 drachms
Glycerine	1 drachm
Rice flour	1 drachm
Fresh yolks	2 drachms
Rose-water	1 ounce
Tincture of benzoin	36 drops

Beat all together till it forms a paste. Because of the eggs, this will not keep so long as the foregoing. One drachm of refined tar and violet extract beaten into a pint of olive-oil is also commended for the same purpose.

The entire grace and beauty of the hand are destroyed if it is confined in tight or ill-fitting gloves. Better by far would it be to wear a glove two sizes too large than to cramp it into one a half-size too small. The hand loses all its expression and becomes a dull clod of woe and pain when cramped into an ill-shaped or tight glove; and the stricture of the hand, like that of the foot, is also felt, in disturbed circulation, by other parts of the body.

Freedom, absolute freedom, of every artery, vein, bone, and joint in the body is an indispensable condition in the culture of its perfection and beauty. And you may not pinch even one finger of a hand without incurring some penalty.

Fastidious Parisiennes have their gloves made to order because there is very often a slight difference in size between the two hands, and this is the only way to insure a fit. The right-hand is used so much more than the left that it is apt to require a half-size larger glove than its idle fellow; therefore, those who are dependent upon the ready-

made stock, as most American women are, should fit their gloves to the larger hand.

Since nice gloves are an expensive part of a woman's wardrobe, and it is of utmost importance that they should look fresh and dainty, a wise woman chooses the serviceable russets, tans, and dark grays for street use. The craze of recent years for wearing white gloves in the street, is an abomination of abominations, for it has seemed to pervert and actually demoralize many women's natural instinct for scrupulous daintiness. Filthy white gloves are an offense to your neighbor, if your own sense is blunted; and it would be better far to wear simple gray Lisle gloves than nasty white kid ones.

Kid gloves of medium shades can be very neatly cleaned at home with the soap-bark pastes, which leave the kid soft and impart an agreeable aromatic odor. I give here a French formula for the purpose, which is pronounced excellent.

GLOVE CLEANER.

Gum tragacanth.....	½ ounce
White Castile soap.....	1 ounce
Rose-water.	1 pint
Tincture of musk.....	10 drops

Dissolve the soap in the water, put the gum in, and when swelled stir till thoroughly mixed; then strain and perfume. Put the gloves on the hands or lay flat on a covered cleaning-board and apply the cleaner with a bit of soft flannel. Does not stiffen the gloves.

Of course a flexile, slender wrist and well-rounded arm add to the beauty of the hand. Though we cannot change the shape of the wrist we can give it flexibility by exercising it, and take off superfluous flesh in the same way; or put it on where it is needed by massaging with skin-foods or oils and developing the muscles with exercise. The astringent lotions and emollient pastes which refine the skin of the

hands will perform the same service for the arms. But nothing else has so much influence in giving to the flesh firmness and elasticity and exquisite curves, and to the skin every quality of beauty as the daily cleansing bath. And when all has been done for the external casing of the hand, it must be informed with the grace of a beautiful soul to acquire its full expression and ability to charm.

CHAPTER X.

THE VISIBLE SEAT OF EMOTION: THE MOUTH, LIPS, TEETH, NOSE, AND VOICE.

"What as *Beauty* here is won
We shall as *Truth* in some hereafter know."

"Teach not thy lip such scorn; for it was made
For kissing, lady, not for such contempt."

THE beauty of the mouth, more than of any other feature, depends upon woman herself. Her nose she has usually to accept in whatever shape it leaves the hands of her mother, who too seldom realizes of what plastic material this prominent feature is composed, and that it is in her power to be its Phidias and mould it to ideal perfection.

But thought and emotion are the sculptors of the mouth, and these are under individual control. Circumstances have "nothing whatever to do with the case," for we make circumstances.

"The thing we long for, that we are
For one transcendent moment,
. . . . . .
And longing moulds in clay what life
Carves in the marble Real."

Emerson says: "Of all the organs of sense, the mouth admits, I believe, of the greatest beauty and the greatest deformity." As the lips are a nucleus of nerves and surrounded by very many muscles, their contour is changed

with every passing thought; and, of all the features, they are the most susceptible of action and the most direct indices of the feelings. Being thus ductile, the expression of the lips is determined by the muscles which are most frequently brought into play; and students of character in facial expression find the most unerring lines about the mouth and in the shape of the lips. "Not only the lips themselves and their surrounding lines of expression, but the chin and the cheeks assume beautiful forms and retain their smooth and youthful contour in proportion as the mouth bespeaks content."

A writer in Blackwood's says that, generally speaking, it is a contest with minor difficulties that produces a thin and rigid set of lips. He has observed this most invariably in housewives of the Martha type, who are careful and troubled about many things, "and whose souls are shaken to the centre by petty worries within doors and strife *à l'outrance* with the shortcomings of the scullery-maid or the cook." He draws the conclusion, therefore, that it is persons of weak will who have habitually compressed lips, for the strong will is conscious of its strength, and not agitated by the trifling annoyances of the hour. The same writer believes that many faults of expression are due to unconscious imitation which impels one to return smile for smile, frown for frown, and yawn for yawn. On this subject, he says: "I know a tutor whose peculiarities of speech and carriage have been adopted more or less by every one of his pupils within the last six years, and several of them have come to resemble him in features. . . . Has it occurred to many careful parents that the good looks of their daughters depend in no slight degree on their choice of nurse-girl or governess?"

A woman can spoil a beautiful face by an unlovely expression of the mouth, and she can make a comely one ridiculous by grotesque contortions of which we must presume she is unconscious. If you doubt this, just go out on

a crowded thoroughfare in a shopping district some morning with the deliberate purpose to study facial expression. Almost every other woman you meet will be an object lesson to you of what *not to do.*

It really is of vast importance that you give serious attention to the fact that the mouth is in such intimate sympathy with your every thought and feeling. That a very large majority of women are unconscious or heedless of this fact is evidenced every hour in the day; not merely by the fleeting distortions in which they indulge, that are like a passing cloud, but by the positively weird grimaces which are sometimes stamped upon the face for many minutes, and which reveal, if we follow Lavater's method in studying character by imitating the expression, a curious mixture of wayward, half-formed impulses and indefinite thoughts.

Among these controlling nerve-fibres of the face there is all the time a sort of war of conquest going on between those of the great sympathetic system, which register every physical sensation and supply nutrition to the skin, and those higher servants of the brain which convey, and therefore, if we are not on our guard, betray, our thoughts. Not only acts but impulses and feelings which are resisted leave their marks; but the exercise of will, controlling by thought our emotions, can efface the work of the latter. There is an intuitive association between the muscles of expression and the nerve-centres of thought and feeling, and it is only by being on our guard that we can control this photograph, as it were, of our most fleeting thoughts. With utmost care, at times it is impossible.

Whenever the thoughts turn in their habitual direction, a stream of nervous fluid is conveyed to the corresponding muscles of expression, and even when the face is held in unusual control, they leave their impression, strengthening and deepening lines, however imperceptibly at the moment, that grave upon the face its character. Even in dreams every faintest emotion chases its fellow over the counte-

nance of the unconscious sleeper, betraying joy or sorrow.

The thin face, usually an accompaniment of the extreme nervous temperament, exposes a very legible story of the prevalent emotions and thoughts. Strong people who are wont to exercise supreme authority carry it in the eye, and the calm, self-controlled mouth simply expresses confidence. Always it is to be observed that success gives confidence; and confidence, ease and freedom from tension.

The old aphorism concerning a guard upon the lips should have a double interpretation; for lax and flabby ones tell a silent tale that he who runs may read of yielding to physical impulses and temptations. It is not alone the spoken word but the visible thought over whose control we must learn discretion.

When you have cultivated a critical faculty by observing the curious and absurd tricks and mannerisms by which women make attractive faces ugly and mediocre ones repulsive, study the methods by which plain ones are illuminated. Habitual pouting enlarges and coarsens the under lip, as does also the thrusting it forward with the chin when nourishing a sense of fancied injury. Twisting the mouth is one of the most common tricks; sometimes it is a scornful upward curl of one corner involving the nose; again it is a pursing of the lips as if to whistle; and sometimes it is a grinding of the jaws that screws all one side of the face out of shape. Thrusting the tongue about in unnatural postures is another common habit. It is quite bad enough when rolled around in the cheek, but when stuck out between the lips it will make an intelligent face appear idiotic.

If you have never noticed these tricks of facial contortion, you will be amazed by their variety and the frequency of the deplorable habit; and they are actually contagious, both from conscious and unconscious imitation. Whatever is before us all the time inevitably leaves its impress upon our minds, and, according to the intensity of this, is reflected in our faces. Recognizing this law we must guard

against dwelling upon any such blemish which may confront us daily.

The influence of every bad habit is inevitably to chisel deep lines in conformity to the expression, howsoever deforming it may be. And, moreover, there is no period in life when these subtle and silent agents, the muscles and their controlling nerves, are not at work making or marring the beauty of the face; their model always being that which is held before the mind's eye. Thus, the standards of comparison in models of Greek art and other masterpieces, ever present to the mind of the artist, leave their ennobling impress upon the lines of his features; and we have come to recognize in recent years what is known as "the actor's face."

From the constant activity of all nerve influences which maintains a perfect balance of power between the two sets, all the muscles of the actor's face are developed without lining it. This is the secret of that Fountain of Youth at which actors and actresses alone have seemed privileged to drink, and whose source has been considered so mysterious. It has the effect of giving to ordinary features great dignity of character; and, according to the natural advantages at the beginning of the career, develops a very high type of physical beauty.

Often the source of the unlovely tricks of expression to which woman falls an unconscious victim is that other arch-enemy of her good looks, petty worry, which has for boon companion that nerve-destroyer, hurry. Beauty and these are at war always, and we will have none of them. "Love and hope exercise the muscles which celestialize the mouth." It is easier to be brave and courageous if you look so; to be amiable and sympathetic if you assume the expression.

The highest beauty is found in that communion with self which encourages the growth of the soul. Spiritual activity alone can overcome the deadening influence of un-

congenial surroundings. 'Tis an unvarying law that "Esoteric growth makes exoteric beauty."

A beautiful mouth is one that is neither large nor small, and has a graceful, firm outline; and beautiful lips are neither thick nor thin, nor compressed nor weak. But if ideally perfect in shape they would not achieve beauty without an expression of frankness and amiability.

When there is a positive congenital malformation of the mouth or other prominent feature, it is best to seek the relief of plastic surgery; for, in many cases, a slight operation will correct a defect that makes a sensitive girl morbidly self-conscious and may thus spoil her life. This branch of surgery has been brought to such a point of perfection that it undertakes to remedy almost any deformity; but the average of operations required are of a slight and almost painless nature, healing quickly and leaving no scar. I would by no means advise resort to the knife for any less serious defects. It is arrant folly to rush to it for the cure of self-inflicted blemishes like wrinkles and double chins. Their only legitimate remedy lies in the reform of the habits which caused them.

The nose is so plastic that it can be moulded out of many deformities by the application of pressure; and simple home devices to subdue a thick, spreading nose are the use of a spring clothespin or a piece of watch-spring holding stiff pads by the sides of the nose, a lotion of camphor and tannin being applied at the same time. There is also a patented device for the same purpose.

If the infant's nose received proper attention from nurse and mother, ugly noses would be relegated to barbarous races; for this conspicuous feature can in youth be shaped, by gentle strokes and pressure, into the same perfection that the sculptor moulds his plaster model. Even in early adult life much can be accomplished to improve the shape of the nose by always exercising care, when bathing or using the handkerchief, to wipe it downward with gentle

Thick lips are sometimes reduced in size by rubbing them with tannin or some other astringent lotion. The lips are so delicate in structure, however, that the astringent substance is best applied in the form of a cream. For the purpose melt an ounce of any of the cold-creams already mentioned; add one gramme each of pulverized tannin and alkanet chips; let macerate for five hours, then strain through cheese-cloth.

A similar formula given for the same purpose, pronounced excellent, calls for one gramme of balsam of Mecca, which the writer was evidently ignorant could not be obtained anywhere outside of Turkey, and is not for sale there. A quart of otto of roses could be easier gotten than a single drop of genuine balsam of Mecca. Not more than ten to fifteen drachms of this highly prized resin is yielded per annum by one tree, hence it is so rare that the entire product is reserved for use in the Seraglio, and to bestow as precious gifts upon high officers of State.

It is also known as balsam, or balm, of Gilead, being obtained from *balsamodendron Gileadense*, a tree growing in Arabia Felix, Asia Minor, and Egypt. It is the "balm" of the Old Testament. An inferior quality of the oily gum is obtained from the twigs of the tree, which are boiled in vats. This is sold as balsam of Judea, and only the poorest of this, which is rejected by the Orientals, ever reaches England or this country. The pure balsam is put up in square leaden bottles containing two hundred and fifty grammes. It was formerly credited with marvelous powers in promoting health and beauty, and has for centuries been held in high esteem for its medicinal as well as cosmetic virtues and as a fragrant unguent. None of the cosmetics advertised as containing "Balm of Mecca" contains a single grain of the genuine balsam.

The freshness of all lip salves or pomades is of great importance. It is therefore prudent to make or to purchase them in small quantities, and glycerine is an important ad-

dition to them because of its valuable antiseptic properties which prevent decomposition of the fats with which it is incorporated. Using spermaceti ointment or Kentucky cold-cream as a base, a variety of lip-salves can be prepared, stimulating, healing, emollient, or astringent, according to need. Alum, in very fine powder, or tannin are the astringents; camphor, benzoin, and glycerine are healing and stimulating. One of the finest and most highly esteemed of the "lip-salves of the shops" is the following:

PERUVIAN LIP SALVE.

Spermaceti ointment	1 ounce
Balsam of Peru	15 grains
Alkanet-root	15 grains
Oil of cloves	5 drops

Digest the alkanet in the ointment, at gentle heat, till the latter is a deep rose color, then pass through a coarse strainer. When slightly cooled, stir in the balsam; give a few moments to settle, then pour off the clear portion and add the oil of cloves. You can make this or any other mixture a glycerinated pomade by adding one sixth or one eighth part glycerine; and a drop or two of any other essential oil can be added.

CAMPHOR COLD-CREAM.

Expressed oil of almonds	4 ounces
White wax	1 drachm
Spermaceti	1 drachm
Camphor	3½ drachms
Oil of rosemary	9 grains
Oil of peppermint	5 grains
Rose-water	4 ounces

Mix in a *bain-marie*, according to previous directions given for cold-creams. It can be colored with alkanet as are the foregoing.

An Oriental balm, prepared nightly in Turkish harems and much esteemed for its stimulating and emollient prop-

erties, is made by crushing a pound of fresh damask rose-petals in a cup of sweet cream. It is strained through a piece of gauze, and then a pinch of powdered vanilla is stirred into the cream. It sounds quite delicious enough to eat, and is certainly the most delectable of all compounds that could be rubbed upon the lips.

That petty, unfeminine vice of cigarette-smoking, usually indulged in as an absurd effectation of smartness, is an unpardonable practice, however it may originate; and the woman indulging in it is, for the time, out of focus and sympathy with all the best, noblest, and most truly refined qualities which are the rightful heritage of her sex. She has lost the point of view to which she was born. Saying nothing about the coarseness and essential vulgarity of the practice, or even considering its deleterious effect upon the nerves, 'tis sufficient for our purpose here to consider its disastrous effect upon woman's beauty and her charm.

Women there are who are drawn into the habit from a spirit of *bon camaraderie* with their husbands, who encourage the practice, but even then it is a grave mistake. These women lose sight of an important law lying at the very root of their beings. That sort of familiarity between men and women is productive of no good. She steps down from her throne, and he loses an influence which good-fellowship in no smallest measure supplies.

The more womanly a woman is the more ennobling her influence upon man. We cannot afford to lower in the slightest respect, to jeopardize by a hair's breadth, that indefinable influence which is the prerogative of pure womanhood. There are too few uplifting influences in the world. You lower man and all humanity when you lower yourself, or tamper and trifle by so much as the smallest degree with the exalted idea of womanhood which it is man's greatest joy and highest hope in life to possess.

The mere act of smoking, the pressure of the lips about the cigarette, the drawing it, and exhaling the smoke,

when indulged habitually changes the form of the mouth, and gives rise to wrinkles around the lips. The tobacco yellows the teeth, stains the fingers, and leaves a disagreeable taint about the entire person and her belongings, which no use of breath-pastils and perfumes can eradicate or cover. The repulsiveness of the stale odor seems enough in itself to restrain a refined woman from indulging in the baleful practice.

A fragrance of absolute purity should be exhaled from a woman's person, and no charm she may possess can atone for a tainted breath with its suggestion of neglect and physical disorder. The purity of the breath is impaired by digestive fermentations from over-eating or from highly spiced foods, from drinking alcoholic stimulants, from constipation, and, of course, from decayed teeth or any disorder of the mouth or stomach. Accumulations of tartar also are waste matter which fouls the breath.

A bad taste in the mouth is an unmistakable hint of disorder and an impure breath; but, too often, the victim herself is the last one to be made conscious of the offense, and, consequently, the most watchful care is necessary. It is said that it is possible to ascertain if there be a trace of impurity by holding a hand-mirror closely before the open mouth and exhaling upon it. When there is the slightest doubt upon the subject the mouth should be frequently rinsed with aromatic and antiseptic lotions, and pastils can be used.

The simplest remedy for disorder caused by acidity of the stomach and indiscretions of food or drink is a dose of ammonia; five to ten grains of the carbonate, or five to fifteen drops of ammonia-water in a glass of cold water. Chewing a leaf of parsley or drinking a glass of milk after eating onions will remove that odor from the breath.

The Japanese perfume the breath by chewing the bark of the *culilawan* cinnamon. This is perhaps the Chinese cinnamon, or cassia, having the general properties of true

cinnamon—*cinnamomum zeylanicum*—but not so fine. The antiseptic as well as aromatic properties of cinnamon are highly valued by the Oriental peoples, and it is incomprehensible that we have been so slow to utilize it. It destroys all infectious microbes, even its odor being inimical to them; and if decoctions of it were freely drunk in malarial regions it would prevent infection.

The resinous "tears" of mastic—the "lentisque seeds" of Oriental women—harden the gums and impart a delicious odor to the breath. According to Martial, Roman women used tooth-picks of mastic-wood,—the *Pistacia lentiscus*, or lentisk, which grows on the shores of the Mediterranean. When we add the lotion of incense (olibanum), camphor, and myrrh, with which Oriental women rinse the mouth, night and morning, we find them using such specifics against the disorders which threaten the purity and integrity of mouth, teeth, and gums, as should insure their absolute sweetness and health.

If you have a fancy to know what substances enter into the pastils you use, you can easily make them by either of the following formulæ, adding or changing spices and essential oils according to taste:

PASTILS FOR THE BREATH.

Powdered sugar	2 ounces
Chloride of sodium	48 grains
Gum tragacanth	40 grains
Gum acacia	40 grains
Oil of vetiver	1 grain
Oil of cinnamon	5 grains

Reduce the chlorate to powder; put it in a cup, and pour over it a little water; let it settle and pour off; repeat the process three times with fresh water, filtering what is poured off through porous paper; then use this filtered water to mix the sugar and gums, adding the perfume last. When it is a smooth, thick paste, pour out on a marble slab to stiffen, and cut it into small lozenges.

PASTILLES ORIENTALES.

Pulverized charcoal	2 ounces
Gum mastic	½ ounce
Powdered sugar	2 ounces
Powdered chocolate	6 ounces
Powdered vanilla	1 drachm
Powdered orris-root	1 drachm
Oil of cloves	5 grains
Oil of peppermint	5 grains

Melt the powders and gum together by gentle heat, stirring till thoroughly mixed. As it cools beat in the oils, then turn out on a marble slab to stiffen.

The aromatic pills, which must be covered with genuine silver foil, are more troublesome to manipulate, but this is Askinson's formula:

CACHOUS AROMATISÉES.

Gum acacia	1½ ounces
Catechu, powdered	2¾ ounces
Cascarilla, powdered	¾ ounce
Mastic, powdered	¾ ounce
Orris-root, powdered	¾ ounce
Liquorice juice	1¼ pounds
Oil of cloves	75 grains
Oil of peppermint	½ ounce
Tincture of ambergris	75 grains
Tincture of musk	75 grains

"Boil the solids with water till a pasty mass results which becomes firm on cooling." Add the perfumes when partially cold. The mass is intended to be rolled into pills, one of which it is averred will remove almost any taint from the breath. It could, however, be made into tiny lozenges.

Beautiful teeth, glisteningly white and even, are the jewels which complete the attractiveness of a pretty mouth, and the want of them is an irreparable misfortune, as greatly to be deplored as other seemingly more obvious deformi-

then pour it off and fill the pitcher again with pure water; if possible, filtered. Stir thoroughly, tie a piece of muslin over the pitcher to prevent dust from falling into it, and let it stand till the water is clear; then carefully decant the clear portion into glass-stoppered bottles. The first water can be used in the kitchen for many cleansing purposes.

To sweeten the breath and strengthen the teeth a tablespoonful of the lime-water is taken in a glass of milk or water. When the teeth are soft and sensitive from deficiency of mineral salts or from the action of acids a larger dose can be taken with admirable results. Two or three tablespoonfuls are not unpleasant, and its addition to milk will make that healthful beverage digestible for many who cannot drink it in its natural state. If not taken too strong, when it is rather harsh, the lime-water leaves a sweet and pleasant, smooth taste in the mouth.

After eating acid fruits, which attack the enamel and render the teeth sensitive, the mouth should be rinsed with lime-water; and at any time when the teeth are affected by acids, either from the food, medicines, or disordered secretions, this can be counteracted by rubbing precipitated chalk round the necks of the teeth and between them. Apply it freely the last thing before going to bed.

To give emphasis to the importance of diet, I will add that a well-known New York dentist says this: "If Gluten flour was generally used in place of fine flours in the rearing of children, or for the food of the adult, I think many of the doctors and dentists would be obliged to seek other fields of labor. I speak from knowledge, my own vitality and endurance having been doubled while using it."

If the first teeth are irregular, the permanent ones are almost certain to be so, and the habit of sucking the thumb or fingers which mothers often encourage, because "it keeps baby quiet," is very liable to cause this. The first teeth have very slight roots when they come through and they are easily pushed out of position, but they should be gently

straightened, and by watchfulness kept so till Nature has secured them in their sockets.

Vigilant care for the scrupulous cleanliness of the teeth should begin as soon as the first tiny pearls cut through the tender gums, and be continued by mother or nurse till the child is old enough to feel a pride in caring for them herself. The pain attending the cutting of the first teeth may be relieved by rubbing the gums with honey; and dentition is assisted if the babe is given a piece of marsh-mellow root or a rubber ring to bite.

No pain or inconvenience attends the natural progression from the deciduous teeth to the putting forth of the permanent ones. When these are ready to come through, Nature absorbs the roots of the former, and the unattached crown, now in the way, drops out of the gum. Now, the importance of preserving these is, that if allowed to decay Nature's process is interfered with. She has no use for impure material and does not absorb the root; so it stays in the jaw, crowds the permanent tooth out of its place, sets up any amount of disorder and disease in the surrounding parts, and usually has to be extracted with instruments, to the peril of the delicate jaw, and, of course, attended by much suffering.

If the permanent teeth come through irregularly, overlapping or twisted, they should be straightened without delay; and if overcrowded it is better to remove a tooth, for this condition favors decay. Students of heredity say, that the most frequent cause of this latter trouble is the inheritance of incongruous teeth and jaws from the parents. It is said that eight times out of ten the teeth are inherited from the father and the jaws from the mother. If it chance that the father has large teeth and the mother's jaw is small, their children are apt to suffer from misfit teeth. If immediate attention is given to the trouble, the skill of the dentist can remedy it. It is even possible to re-set every tooth in

the jaw, and teeth knocked out by accident have been replaced with perfect success.

All diseases of childhood, and especially eruptive fevers which affect the skin, are a menace to the regularity of the permanent teeth, whose arrested nutrition will mark the enamel in grooves, furrows, or spots, as will be seen when they come in sight. If when they are being erupted there is a delay in the process, caused by disease, malnutrition, or any apparently trifling disorder of the stomach, a ridge is certain to mark the arrested growth.

The teeth should be recognized for what they are: invaluable adjuncts to both beauty and health; consequently no pains are too great to secure this advantage; and I have dwelt thus at length on their formative period because adult care cannot atone for early neglect. Granted only an average strength of original structure, if the teeth were kept absolutely clean, they would never decay, and the only other menace to their integrity comes from diseases of the gum which attack the periosteum, the lining membrane of the socket. This is the most insidious trouble of all, and is caused by ulcers, abscesses, and the encroachments of tartar.

Perfect cleanliness of the teeth can be secured only by thorough cleansing with the brush night and morning; by rinsing the mouth after every meal with an antiseptic lotion; and by using, with very gentle care, an orange-wood or quill tooth-pick and a bit of dental floss always after eating, so as to remove every particle of food which may lodge between the teeth. This care should, of course, be given in the privacy of one's room, or in the toilet-room. The dining-room is not the place for it. If left, this immediately sets up fermentation, encouraged by the heat of the mouth; and the acid thus created attacks the enamel and quickly disintegrates the dentine. This is always the beginning of caries; and, if not attended to immediately, the forerunner of toothache and a long train of suffering.

MME. RÉCAMIER.

Poor teeth are not only the cause of intense suffering, but also the obscure source of a great many ills. Sound and healthy teeth are needed to masticate the food properly. The Arabs, who possess fine teeth, have a proverb that "He who does not masticate well is an enemy to his own life." When the teeth are sensitive, either from actual caries, or from the softening of the enamel under the action of acids, there is a natural inclination to spare the tooth, so the first part of digestion is shirked and trouble is sure to follow in the stomach. When decay has actually started there is an additional menace to the health, for the poison from decaying bone is extremely noxious, and contaminates the secretions and blood. It may cause blood poisoning, always does impair the general health through disturbed digestion, and is often the originating cause of very grave troubles.

Therefore, the tiniest spot of decay demands the immediate care of the skilled dentist. If there is no delay, and the work is well done, the tooth is perhaps safe for a lifetime. Don't forget that though you cannot change the external structure of the teeth, as long as the health of their nerves is maintained you can supply them with the lime-salts which strengthen them, and these should not only be provided in the food, but brought in immediate contact with the teeth by means of lotions and the chalk treatment. When the teeth are so sensitive from eating acid fruits that the lightest touch of a finger-nail to one, at the neck, causes exquisite pain, the chalk treatment will correct the trouble and harden the enamel in twenty-four hours.

Much harm is done the teeth by the use of highly extolled lotions and powders which, too often, contain injurious acids and gritty substances that ruin the enamel. It is unsafe to use any compound whose constituent elements are unknown to you. The teeth can be kept perfectly clean by the use of white Castile soap and precipitated chalk once daily, using an antiseptic lotion or warm lime-water for the night-toilet.

These two substances act harmoniously together, counteract acid, and if used with a fine tooth-brush of medium stiffness can do no harm. They can, of course, be wisely supplemented by tonic, aromatic, and antiseptic lotions to strengthen the gums and sweeten the breath.

The brush should be used up and down on the teeth, not around them. The motion should be from the gums towards the crown, so the bristles of the brush will pass between the teeth as much as possible. The insides should be cleaned with the same care as the outsides, and the brush should be rotated on the contact surfaces of the molar teeth, in whose minute crevices decay is apt to start, from the persistency with which food is inclined to lodge in them.

Never pick at the teeth with any metal implement, as there is danger of injuring the enamel.

Cracking nuts with the teeth and biting threads are also practices which should be shunned for the same reason. Extremes of temperature in food or drink are a menace to the enamel, just as boiling-hot water would be to a delicate Baccarat glass. Ice-cream should not be followed by hot coffee, nor hot soup by iced water. Although so hard a substance, if once the slightest crack or orifice is made between the prisms of its structure, decay of the dentine is rapid.

Every slightest disorder of the teeth or mouth has its inception in the micro-organisms carried to the mouth by the air we breathe or in our food and drink. Open-mouthed breathing is a source of great danger, and especially during sleep. The oxygen of the air decomposes the ptyaline of the saliva, which losing its natural alkalinity becomes slightly acid and corrosive. When there is an odor of ammonia in the breath, it indicates a physical condition which causes white decay in the teeth, and encourages the deposit of tartar; and should be counteracted by lotions of dilute acids. Lemons should be eaten freely and other acid fruits. The odor of sulphuretted hydrogen in the

breath is believed to accompany the conditions which hasten black decay, and demands mouth-washes containing chlorate of potash or salicylic acid.

An alkaline dentifrice to counteract acidity is this:

VIGIER'S EAU DENTIFRICE.

Distilled water	980 grammes
Bicarbonate of soda	20 grammes
Alcoholate of peppermint	20 grammes
Carbonate of magnesia	2 grammes
Essence of mint, superfine	20 drops

Dissolve the salt in the water and alcoholate; beat the magnesia and the essence together; pour the liquid upon it, little by little, and filter.

DENTIFRICE ASTRINGENT.

Fennel-water	100 grammes
Tincture of lignum-vitæ	13 grammes
Tincture of myrrh	5 grammes
Chlorate of potash	2 grammes

Dissolve the chlorate in the water and add the tinctures little by little.

DENTIFRICE ANTISEPTIQUE.

Salol	3 grammes
Alcohol	150 grammes
Essence of star-anise	½ gramme
Essence of geranium	½ gramme
Essence of mint	1 gramme

A few drops of this in a half-glass of water can be used to rinse the mouth after meals and at night.

An aromatic elixir which if used regularly will promote the health of teeth and gums is the following:

AROMATIC ELIXIR.

Cloves	150 grammes
Anise-seed	150 grammes

Gum mastic	100	grammes
Cinnamon	100	grammes
Catechu	90	grammes
Peruvian bark	90	grammes
Pellitory of Spain	100	grammes
Essence of peppermint	10	grammes
Essence of cinnamon	5	grammes
Spirits of horseradish	300	grammes
Alcohol	2½	quarts

Crush the solids and macerate them in the alcohol for two weeks; then filter, and add the essences; mix thoroughly, then add the spirits. All of these lotions for the breath and teeth are used in the same way by putting a few drops—eight to ten, or stronger when desired—in a half-glass of water. The pellitory of Spain, which Arnold Cooley says is the root of Spanish chamomile, will if chewed relieve toothache in most cases very quickly. It is an important ingredient in many English odontalgic remedies, but American chemists are not very familiar with it. The United States Dispensatory says it is *anthemis pyrethrum* and also *anacyclus pyrethrum*, and further states that Spanish chamomile is called *manzanilla Romana*, but does not connect it with the pellitory.

Salicylic acid possesses so strong antiseptic properties that it is one of the most valuable substances in hygienic cosmetics. Used in a mouth lotion after meals it will purify the breath of all unpleasant odors, even removing that from decaying teeth, and arresting the progress of caries.

SALICYLATED MOUTH TINCTURE.

Salicylic acid	7½	drachms
Orange-flower water	15	grains
Oil of peppermint	15	grains
Filtered water	1	quart
Alcohol	1	pint

Mix the oil of peppermint with about two ounces of the alcohol; add the remainder to the water and warm it; then

dissolve the acid in it; while still warm add the perfumed water and tincture of peppermint.

When the gums are spongy and diseased and the teeth loose the following lotion will usually afford relief:

MYRRH LOTION.

Gum mastic, powdered	2 drachms
Gum arabic, powdered	2½ drachms
Balsam of Peru	½ drachm
Orange-flower water	5 ounces

Make into an emulsion, and then very gradually, under continual agitation, add

Tincture of myrrh	3 drachms

Still another, for similar conditions, and especially when there are scorbutic symptoms, is this:

RONDELETIA LOTION.

Balsam of Peru	4 drachms
Camphor, crushed fine	1 drachm
Tincture of myrrh	1 ounce
Ammonia-water	1 drachm
Rectified spirits	1 ounce
Spirits of horseradish	3 ounces
Essence of lavender	2 drachms
Essence of cloves	2 drachms

Mix all together; agitate occasionally for ten days; and, after repose, decant the clear portion.

For a famous and favorite tooth tincture which has been credited with many virtues, Dr. Vaucaire gives this formula:

EAU DE BOTOT.

Alcohol 95%	1¾ quarts
Anise *perlé* (seed)	100 grammes
Cinnamon	35 grammes
Cloves	32 grammes
Quinquina	10 grammes

Macerate for a fortnight or longer, then filter and add:

Essence of mint	20 grammes
Cochineal	10 grammes

When the teeth are in good condition and do not require the detersive action of grittier substances than precipitated chalk the following is an excellent tooth powder for daily use:

CAMPHORATED CHALK.

Camphor gum	1 ounce
Precipitated chalk	5 ounces
Pulverized orris-root	3 ounces

Triturate the camphor in a mortar with a few drops of alcohol; then add the other powders; mix thoroughly, and sift two or three times through silk bolting-cloth or a very fine sieve. The frequent use of camphor is very beneficial to both teeth and gums. It tends to destroy the animalcula in the secretions of the mouth whose skeletons go to form tartar; and, consequently, is an active agent in preventing the formation of this menace to the purity of the breath and integrity of the teeth. Camphor-julep may be used with good effect as a mouth-lotion. Mastic, myrrh, and camphor in combination form an almost invincible remedy against even the most abnormal disposition towards the formation of this unpleasant deposit.

Of all the preservative substances known to dental science, nothing equals areca-nut charcoal, but it is very difficult to obtain the genuine article. It is prepared and kept by only a few chemists, and four fifths of that sold under the name is spurious. It not only whitens and preserves the teeth, but corrects all abnormal and unhealthy tendencies of the mouth, teeth, and gums, curing scurvy and ulcerations and fixing loosened teeth. Eminent surgeons and dentists who have resided in the Orient, where it is highly esteemed and constantly used by the natives, say that where this charcoal is regularly used as a dentifrice,

the teeth will be preserved in perfect health to an advanced age.

Areca-nuts are the fruit of the areca palm, and they are also called betel-nuts, from the practice of the Eastern peoples of wrapping them in betel-leaves to chew. The betel is an evergreen shrub, growing in the East Indies and the Philippine Islands, whose leaf is aromatic. The natives smear a betel-leaf (called also buyo) with lime—made from oyster shells—and wrap it around a slice or two of areca-nut. They are thus prepared and sold, fresh every day, by street vendors, in the Philippines and throughout the East. The betel-leaf contains strong coloring matter, and the constant chewing of the prepared nuts stains the teeth. This in China and some other parts of the East is esteemed an attraction, and distinguishes the married woman from the maiden.

The nut is small, resembling the nutmeg in shape and structure, though harder and larger. "It is astringent, sialogogue, stomachic, and narcotic. The nut and its husk are employed, in some form or other, by all classes of the natives as a masticatory." It carries its valuable qualities to a great degree into its charcoal, which in addition possesses higher detersive and antiseptic properties than other vegetable charcoals, without their grittiness. It is to be hoped that some enterprising chemist will import these nuts in quantities from the Philippines, and prepare the charcoal here, as all charcoal deteriorates with age and exposure to the air. A simple tooth-paste is made of areca-nut charcoal by beating it up with pure honey or orange-flower syrup. Sometimes aromatics are added, but they do not increase its efficiency. Other formulas for its preparation are the following:

ARECA-NUT TOOTH-POWDER.

Areca-nut charcoal	5 ounces
Cuttle-fish bone	2 ounces
Areca-nuts, raw and powdered	1 ounce

Mix, and strain through a fine sieve. A half-drachm each of cloves and cassia are usually added, but are no advantage. If there are scorbutic symptoms or ulcerations, a half-drachm of oil of cinnamon would increase its efficacy.

ARECA-NUT TOOTH-PASTE.

Areca-nut charcoal (recent; fine powder).... 5 ounces
Areca-nut charcoal (raw; fine powder)..... 1 ounce

Narbonne honey (rose honey) sufficient when liquefied by gentle heat and cooled to make a stiff paste. Then add gradually:

Rectified spirits..... 6 drachms
Oil of cinnamon..... 1 drachm
Oil of cloves..... 1 drachm

Mix the oils with the alcohol before adding it to the paste. The next day give the mixture another beating, and if necessary to give the proper consistence, add a few drops of alcohol or orange-flower water.

If we could always obtain areca-nut charcoal we should have no difficulty in preventing the deposit of tartar about the teeth, or in removing it when from neglect or the want of corrective agents it has accumulated. It is unsafe to use habitually any grittier substance than Prepared chalk, which is not so white nor quite so fine and soft as the Precipitated, and consequently is more detersive. Neglected teeth will need a more active powder to bring them into good condition, and, when there is a constitutional tendency to the deposit of tartar, its occasional use is necessary. Pumice-stone, Bath-brick, cuttle-fish bone, burnt hartshorn, red coral, and shell-lac, all reduced to finest powder, are the substances which enter into most of the much vaunted tooth-powder and dentifrices. A few formulæ of this nature are here given; with emphasis, however, to the caution that their use should be infrequent:

DENTIFRICE INCOMPARABLE.

Burnt hartshorn	5	ounces
Cuttle-fish bone	5	ounces
Armenian bole	3	ounces
Calamus aromaticus	1	ounce
Cassia	1	ounce
Pellitory of Spain	1	ounce
Camphor	1	drachm
Essence of vanilla	½	drachm
Essence royale	15	drops

The substances, finely comminuted, are thoroughly mixed and then strained. An exceedingly agreeable powder to use, and "esteemed by smokers and others troubled with foul breath or with toothache."

MYRRH DENTIFRICE.

Cuttle-fish bone	3 ounces
Prepared chalk	3 ounces
Burnt hartshorn	2 ounces
Myrrh	2 ounces
Orris-root	2 ounces

Mix and strain. Commended as often efficacious in correcting diseased gums and fixing loose teeth. This can be made into a violet dentifrice by adding a half-drachm of essence of violet, and tinting it with a little indigo and about an ounce of red bole.

A pleasant and tonic powder which can be used more frequently than either of the foregoing is this:

TONIC TOOTH-POWDER.

French magnesia	2	ounces
Bicarbonate of soda	½	ounce
Powdered orris-root	1	ounce
Green anise-seed powder	5	drachms
Powdered charcoal	4	drachms
Powdered cloves	5	drachms

Use areca-nut charcoal if possible, and mix as previously

directed. Another which is commended as very serviceable for foul, lax, or bleeding gums, with loose teeth from which the gums incline to shrink away, is the following:

MIAHLE'S RATIONAL DENTIFRICE.

Sugar of milk	3 ounces
Tannic acid	3 drachms
Red lake	1 drachm
Oil of mint	8 drops
Oil of anise-seed	8 drops
Oil of néroli	5 drops

Mix and strain. Its detergent properties may be increased by the addition of an ounce each of burnt hartshorn and cuttle-fish bone. When the gums are in a very bad condition the powder can with advantage be rubbed gently into them with the finger; and it can be supplemented with this gargle used frequently during the day, and held in the mouth for several minutes:

ASTRINGENT AND TONIC GARGLE.

Tannin	8 grammes
Tincture of iodine	5 grammes
Iodide of potassium	1 gramme
Tincture of myrrh	5 grammes
Rose-water	200 grammes

Make an emulsion. For use dilute in the proportions of about a spoonful to a third of a glass of water.

For extremely sensitive teeth the soap pastes are beneficial, and this is a highly commended French formula:

SAVON DENTIFRICE.

Phosphate of lime	80 grammes
Carbonate of magnesia	10 grammes
Castile soap, powdered	5 grammes
Carmine, No. 40	2 grammes
Gum mastic	8 grammes
Glycerine	80 grammes
Essence of mint	½ gramme
Essence of roses	½ gramme
Essence of *anis vert*	35 centigrammes

Put all but the oils into a *bain-marie* and beat thoroughly together under gentle heat; when cooling add the oils, and pour into open-mouthed jars or porcelain boxes.

Tartar is a complex secretion, chiefly of an alkaline nature, but the microscope reveals micro-organisms, and it is believed that these assimilate matter in the saliva and cast it down as calcium salts. This accounts for the rapidity with which it has been known to invade the root of the tooth, growing up under the gum. It inflames the periosteum, the lining membrane of the tooth-socket, causing the disease recognized as periostitis; and the degeneration or absorption of this tissue causes the tooth to loosen. This is the insidious danger of tartar. If the periosteum is destroyed, there is no possibility of saving the tooth, and many a strong, sound tooth has been lost in this way.

Another danger which threatens the integrity of the periosteum is the tendency to ulcers. This accompanies the condition of the skin, which causes *acne punctata*, and of the system which is manifested in boils and styes. If the ulcer is not quickly brought to a head and healed it may degenerate into a chronic abscess, which will work away in a hidden pocket, sometimes without any pain or soreness, till it has finished its mischief, the destruction of the periosteum.

Hence the same vigilance is required to keep the gums in a healthful state that must be observed in the care of the teeth. A bit of fig is frequently used to draw an ulcer to a head; but treatment with vaseline and alum will do it very quickly and thoroughly, and with the minimum of pain and inflammation, which it quickly eliminates. The vaseline is rubbed in first, then a tiny bit of powdered alum applied with the finger. A perfect and rapid cure is assured by rubbing the gum with vaseline and diluted glycerine at frequent intervals.

The cure for a chronic abscess is a glycerinated lotion of carbolic acid and cinnamon. The acid is in a weak solution, as used for toilet purposes, and could be touched to the

tongue without pain. It is mixed with the glycerine in the proportion of two thirds of acid to one third of glycerine, and five drops of pure oil of cinnamon is added for every ounce of the lotion. It is rubbed directly on the gum, and a bit of absorbent cotton wet with it is placed over the affected part. For a mouth wash, fifteen drops are diluted with a third of a glass of water.

This treatment effected a cure in a few weeks, after listerine and myrrh, singly and together, had been used for months without producing any more apparent effect than so much water. They had, of course, cleansed the mouth, and assisted in maintaining its general health, but nothing more.

The art of dentistry has reached such a point of skill and ingenuity that if there are only a few sound teeth and roots left the patient is spared the annoyance of having to wear a plate. For the sensitive gums which refuse to adapt themselves to the infliction of such a necessity the following ointment will prove a boon:

POMMADE ADOUCISSANTE.

Vaseline	1½ ounces
Peru balsam	1 drachm
Powdered tannin	1¼ drachms

Mix. It suffices sometimes just to rub the pomade upon the plate where it touches the sensitive spot, but it will hasten relief if rubbed into the gum itself. The set of teeth should be removed from the mouth at night and kept in a glass of water, containing a few drops of listerine or other antiseptic lotion. The plate and teeth can be agreeably sweetened and cleansed by rinsing in a half-cupful of tepid water containing a teaspoonful of this lotion:

PURIFYING LOTION.

Essence of water-cress	3 ounces
Tincture of cachu	2½ drachms
Tincture of rhatany	2½ drachms
Pure thymol	2 drops
Essence of thyme	2 drops

A weaker solution will also be found agreeable to rinse the mouth. The essence of water-cress must be made at home by digesting the fresh herb in alcohol; as, like cucumber and lettuce juices, the chemists do not keep it. A lotion entirely of water-cress juice is another astringent which has a happy effect upon spongy, bleeding gums, a condition of things which must not be neglected. The practice of the Irish to clean the teeth *occasionally* with common salt is commended by Dr. Shoemaker. It destroys all deposits injurious to the teeth, and if rubbed into the gums gently, using a bit of soft muslin, will give them firmness.

Permanganate of Potash is a valuable salt for the teeth, and its property of giving off oxygen to organic substances immediately destroys all odors in the mouth caused by organic bodies. A wash prepared in the proportion of five drachms to a quart of distilled water is a useful one to keep at hand. A few drops in a glass of water are used to rinse the mouth. It must be handled with care, as it stains the skin and any cloth with which it comes in contact, requiring acid for its removal. Askinson recommends "polishing" the teeth after its use with peppermint water.

Canker of the mouth should be treated with alum, which, however, should be rinsed from the teeth after a short time, or kept from contact with them, as it affects the enamel injuriously. The following is a pleasant remedy for the same trouble:

CANKER SPECIFIC.

Pure honey	2 ounces
Powdered borax	½ drachm
Tincture of valerian	2 drachms

Beat thoroughly together and take one or two teaspoonfuls daily.

Toothache generally indicates that decay has attacked the tooth, and usually any delay in seeking the dentist's care

is fraught with increased suffering. Temporary relief is afforded by the use of the oils of cinnamon, cajeput, caraway, or cloves. A drop or two of any one of these on a bit of absorbent cotton placed in the cavity, if there is one, or beside the tooth if it is intact, will in most cases give prompt relief. Never consent to have a tooth filled with arsenical tooth-cement. The destruction of the remainder of the tooth is sure to follow, involving frequently exfoliation of the jaw, and causing agonizing suffering. Gold is, of course, the best filling when expense need not be considered and when the tooth is strong enough to bear the pressure involved in putting it in. Soft, friable teeth sometimes have to be filled with bone filling, which, if correctly prepared, is almost imperceptible.

The following mixture is one of the toothache-drops of the shops and highly esteemed:

BOERHAAVE'S ODONTALGIC.

Opium	½ drachm (Troy)
Camphor, powdered.....	5 drachms (Troy)
Oil of cloves.....	2 fluid drachms
Rectified spirits (strongest)....	1½ fluid ounces

Agitate the mixture occasionally for a week; and, after repose, decant the clear portion. Apply on a bit of cotton.

Tartar can sometimes be removed from the teeth by rubbing the spots with pumice-stone applied with a tiny, flat stick dipped in lemon-juice. Rinse the mouth afterwards in lime-water or a weak ammonia solution. The constant use of a solution of tincture of myrrh—enough in a glass of water to make a milky emulsion—will also frequently cause it to crumble away. A weak solution of muriatic acid is a positive agent for removing this enemy, but also a dangerous one, because its contact for even a few seconds with the enamel may impair it. It is applied with a tiny, rag-wound stick, which is dipped in the acid, then for a second

or two in a basin of water; shake it so no drop can fall from it, then rub the spots of tartar for a few seconds; rinse the mouth quickly in a solution of ammonia and water, and repeat till the tartar is all gone. If deftly done so the acid is not allowed to remain in contact with the enamel the operation is harmless, which cannot be said for the scraping with steel instruments of the dentists. This is so harsh that it sometimes loosens the teeth and leaves them very sensitive. The remedy of all remedies is not to allow this foreign and obnoxious matter to find a habitat in the mouth. It is said that chlorate of potash pastils will prevent its deposition, but much depends upon the constitutional habit, and a cure for one has no effect upon another.

When the impurity of the breath seems to come from the stomach and is not relieved by ammonia, charcoal tablets may perform the cleansing office. It is the best method of taking charcoal, and most chemists keep them on sale, but they can be made at home by this formula:

CHARCOAL TABLETS.

Willow charcoal	2 ounces
Saccharine	2 ounces
Pure unsweetened chocolate	6 ounces
Vanilla, powdered	1 drachm

Use sufficient pure gum-arabic mucilage to mix the substances into a stiff paste. Roll out to a quarter-inch thickness, and cut into tablets about three eighths of an inch square. Dose: one or two of the tablets twice a day.

It may enforce the admonition not to breathe through the open mouth, if I tell you that this habit in cold weather is very apt to cause inflammation of the periosteum and the pulp of the tooth; and it is also an inducing cause of acute neuralgia.

This naturally brings me to the voice, for the manner of breathing exercises so strong an influence upon its *timbre*. It is a trite saying that a low, sweet voice is a great attrac-

tion in a woman. If her voice be sweetly melodious and used with skillful modulation a woman possesses one weapon for charming which is invaluable and may outweigh many physical shortcomings.

Naturally, the beautiful mouth and coral lips should be fittingly completed by a lovely voice; but, too often, this harmonious trinity is violated by a discordant, rasping, badly-placed voice. It is usually the result, not of any physical defect, but of careless habits: careless habits of breathing, of thinking, and of speaking. The commonest defect in a woman's voice is pitching it too high; and often this is accompanied by a nervous tension which holds the muscles of the throat taut and strained; and by short, hurried breathing which cuts the vibrations, destroys the overtones, and imparts an unpleasant rasping, dead, or shrill *timbre* to the voice.

Every one of these defects can be overcome by care and attention. "Nobody is ever tired of advantages. How to get into conformity with the laws of Nature is certainly an advantage." This Marcus Aurelius pointed out centuries ago, and it indicates the direct path to success in the search for an attractive speaking voice.

Regularity and depth of breathing give fullness and purity of tone; and, hence, carrying power also, which is something independent of intensity, or loudness, and of pitch. It is not high-pitched voices that are heard the farthest, nor loud tones. In fact, the lower the voice, that is, the full chest voice, the farther it carries; for its vibrations are richer and its overtones more mellow and penetrating. Thus the well-modulated voice, which impresses with its ease and sincerity, is heard, without raising the natural speaking tone perceptibly, farther than the painfully shrill one. When I say "heard," I mean its utterances are heard. Of course, the rasping, high-pitched voice is heard, but its speech is not; for the short, sharp vibrations cut and drown each other, besides painfully afflicting their hearer.

The voice is an instrument capable of an infinite range of expression, and it is in keen sympathy with the thoughts and emotions, reflecting them accurately when not repressed by constraint or conscious control. It will require painstaking effort to overcome pernicious habits, replace the voice, and train it to musical utterance; but the reward is a beautiful and hourly recompense. When you know that in every normal voice there are seventeen trillion and a half different sounds, you must be convinced that there is hope of improving the most strident. Beautiful emotions, high thinking, and deep feeling, all give depth and beauty to the tone of the voice.

Train your ear to notice pleasant, agreeable voices, and listen to your own critically. In the seclusion of your own room, try the pitch of your voice till you discover its most melodious one, that upon which you can develop the fullest and sweetest *timbre*,—the tone which you determine shall be recognized by your friends as your voice. Determination and perseverance can win for it such a personal charm that the sound of it shall attract friends to you. All this can be accomplished by unaided effort; but, of course, when it is possible the work of reform is facilitated and progress more rapid with the assistance of a skillful teacher.

Like all training the benefit will not be confined to the special object, but will leave its traces in the greater decision and character of your features and your bearing.

Unpleasant voices are an American characteristic. But I am weary of the stock charge, so long harped upon that it is generally accepted as an axiom, that Northern voices should go to school to Southern ones to study musical pitch and *timbre*. I am quite familiar with Northern types of voices both East and West; and especially with the New England voice and its so-called "Yankee, nasal twang"; and I know best of all the trying cacophony of Metropolitan voices. But never anywhere have I heard more ear-offending, shrill, uncontrolled ones than in Washington,

Richmond, Va., and Nashville. I have seen charming young girls on the streets of these cities whose voices could be heard two blocks distant, as they talked in groups "over the garden gate"; and others in great hotel dining-rooms whose every word was heard in the most remote corner.

It may be replied that these were Northern guests, but I happened to know they were Southerners; and one chief offender was a ravishing Virginia beauty,—a perfect physical type of the aristocratic F. F. V. This is in no way set down in malice. I love the South and have dear friends there. My only object is to refute an error and point out the need of reform everywhere. Nervous tension and absolute thoughtlessness on the subject are the sources of the evil. A cure will react most beneficially upon the nerves, for the vibrations of a strident voice wear ceaselessly upon them.

Inhaling an atmosphere filled with tobacco smoke is injurious to the voice, affecting it so disastrously that all singers who understand the care of their voices avoid it with scrupulous care. The Arabs restore lost voices by a diet of sun-cooked pulp of apricots; and it is said that inhaling the vapor from hot milk in which ripe figs have been boiled will sweeten the tone of the voice.

Oriental women, who possess so many curious cosmetic secrets, make a delicious paste of figs and apricots which sweetens and softens the *timbre* of the voice marvellously. The fruit is pared and cooked with an equal quantity of sugar, very slowly, till reduced to a thick jam, when it is poured into small flat boxes and dried in the sun. It is said to cure trifling disorders of throat and lungs. Infusions of plantain-leaves, of elder-blossoms, and of that garden pest, chickweed, are all good for hoarseness. Milk and buttermilk are both good for the voice; and a raw egg beaten up with a little lemon juice and taken before breakfast will strengthen and clear it.

A French physician believes he has discovered a certain

means of improving the quality of the voice through the inhalation of a certain compound of peroxide of hydrogen, which he himself prepares. He claims that the treatment will both sweeten and strengthen the tone.

Wanting this magic improver, however, a woman or girl can accomplish a wondrous change with her own unaided effort when she sets about the task with the characteristic determination which a desire to be attractive incites. Just as the touch of her hand should be like a caress, so a woman's voice should fall upon the ear as gratefully as a benediction. "When life is true to the poles of nature, the streams of truth will roll through us in song."

"Show us how divine a thing
A woman may be made."

CHAPTER XI.

THE SOUL'S WINDOW: THE EYE.

"Where is any author in the world,
Teaches such beauty as a woman's eye?"

"The soul is in bondage just as long as the eyes are closed to the larger significance and purpose of life."

"It is the soul itself which sees and hears, and not those parts which are, as it were, but windows to the soul."

No other feature of the human face is so sure an index to the mind and character as the eye, and no arguments are needed to prove the importance of a beautiful one. More sonnets have been indited to it alone than to all other charms of woman. In the skill with which she uses her eyes lies woman's strongest and mose subtle weapon of fascination. Right here is the alphabet of the art of charming. "As the moon gives most light when it is full, so a woman's eye yields most in maturity."

"Normal and expressive use of the body begins with the eye, and extends like a wave over the whole body." The glance always speaks. What it says depends upon the woman. If she has not trained it to express tenderness, gentleness, and vivacity, together with a thousand and one subtle and refined gradations, that half-betray and half-conceal the conflicting, mysterious emotions which move her to the depths of her soul, she has neglected a source of great power. The growth of the soul in love and faith and trust, a trinity of character-builders, is the school of the eye.

Nothing gives to the eye so much beauty as a vital interest in humanity; self-absorption deadens the eye, but love irradiates it with the flash and glow of emotion. These are the

"Eyes so transparent
That through them one sees the soul."

Eyes wait for no introduction. They respect no privacy of thought, nor rank nor pride of place. With one insistent sweep they "go through and through you in a moment of time." And if you deny them with coldest armor of haughty reserve, you cannot protect your nerves from the thrill which penetrates the remotest fibre of your being. "An eye can threaten like a loaded and levelled gun," Emerson says, "or can insult like hissing or kicking; or, in its altered mood, by beams of kindness, it can make the heart dance with joy."

O, wondrous, mysterious power, wielded by human beings over each other's hearts and emotions; capable of all good and all joy, yet perverted through willfulness or ignorant blindness to basest use! A look may wreck a life or a home, or open the Gates of Paradise!

The physical beauty of the eye depends more upon its size and elongation than upon the color. If the form be bad, or if it be not well set in the head, no color can make the eye beautiful. The white of the eye, the sclerotic, should be clear and of a violet-white rather than bluish; just that tint that seems to reflect a violet. The cornea is sometimes spoken of as "the white of the eye," but it is a tough, colorless, highly polished body, as transparent as the clearest crystal, through which the iris and pupil are seen. It is inserted into the sclerotic, as a watch crystal is into the case. The brightness of the eye depends upon the perfection of the cornea's essential qualities; and perfect vision, upon its normal curvature. A muddy tinge to the sclerotic indicates a phlegmatic, heavy nature, and physical disorders or depression make it look like old ivory. Too large

an expanse of white, in humans as in horses, is a sign of a bad temper.

Eyes in which the white can be seen as a setting to the iris are said to belong to erratic persons, and indicate a tendency to insanity. Nobility of character is indicated when the white shows beneath the iris; and if the upper eyelid droops partly over the pupil, 'tis pronounced a sign of mental ability. These, however, are fanciful distinctions which, as every one knows, thought and emotion and also the direction of the glance must modify. In a dreamy mood, the most thoughtless butterfly of a girl gives her eyes a languishing droop under half-closed eyelids which she knows very well is vastly becoming; and the woman who never had a disinterested, unselfish emotion in her life when denied something she greatly desires assumes a resigned-martyr air which might (?) be mistaken for "nobility of character," but is not!

The office of the pupil is that of a curtain which controls the amount of light admitted to the sensitive optic nerve; but beyond this involuntary expansion and contraction, its size depends upon the state of the emotions, and its enlargement has a wonderful effect upon the apparent size of the eye. Joy and all light-heartedness enlarge it; while melancholy and worry and dullness take all the energy and life out of it, and it seems to shrivel to a mere point.

It is impossible to define or explain the influence of color in respect to eyes upon different natures. One man is swept off his feet by a single glance from a pair of melting, dark brown eyes; while he is utterly unmoved when exposed to a continuous fire from the sparkling sapphire orbs that captivate his brother. It would seem that character had something to do with the matter, but often that only makes the question more of a riddle.

Science can explain the phenomenon only as one of personal magnetism. But then science is a poor thing, after all, when it has to do with imponderable things that can-

not be weighed in scruples, drachms, and ounces; nor reasoned out *a priori* or *a posteriori*. Considered broadly, from an æsthetic point of view without reference to any particular eyes, it is generally conceded that dark brown and deep sapphire-blue eyes have equal claims to beauty. When they have corresponding advantages in setting,—are neither deeply sunken nor protuberant; are surmounted with delicately arched brows and veiled by long, curling lashes, they are the most beautiful of all eyes.

Although nothing can be done to alter the color of the eye, it is deepened and intensified by feeling, and the joyous frame of mind that expands the pupil improves and brightens the color wonderfully. The use of belladonna to accomplish this purpose cannot be too strongly condemned, and feminine vanity is pushed to a dangerous latitude when it adopts this artifice for simulating natural beauty. The practice is almost invariably followed by irrevocable injury to the most delicate organ and most precious sense with which humanity is endowed.

Dr. Sozinskey is authority for the assertion that the same effect can be harmlessly gained by using a solution of sulphate of atropia. One grain of the sulphate is dissolved in an ounce of distilled water, and with a glass dropper from one to three drops are made to fall directly into the eye. I should not record this fact here, were it not that the remedy is an accepted one for strabismus, or squinting, and for near-sightedness. But she is a foolish woman who tampers in any way with the integrity of so sensitive an organ if her eyes are strong and normal.

According to Lavater, the temperamental characteristics of both deep-set and protruding eyes are unfavorable. He found the former melancholy and morose, and the latter selfishly intent on the search for enjoyment. "Animally considered they are generally the slaves of sensual indulgence."

Protruding eyes are set in too thick a cushion of fat, and

blank that we see when we look at nature is in our own eyes."

Longfellow had no fondness for the soulless, quick-flashing eye. In "Hyperion" he says: "I dislike an eye that twinkles like a star. Those only are beautiful which, like the planets, have a steady lambent light, are luminous, but not sparkling."

There is much of charm in the trifling act of the mere movement of the eyelids as they rise and fall. When they fold upward in one smooth, deep, oval flexion it adds a subtile fascination to the face. Constant winking conveys an unpleasant impression of flighty, uncertain purpose and want of interest; while the calm, steady gaze of attention is assurance of poise, and imparts something of its own confidence, and we rest in it as in still waters.

Nothing connected with the eye is so susceptible of improvement as the eyebrows and eyelashes, and it is amazing that instead of pencilling and dyeing these, women do not cultivate legitimate beauty in them. There are eyebrow-brushes for sale in the shops now, but a small, fine tooth-brush answers the purpose very well. With it the eyebrows should be brushed night and morning, to promote their gloss and train them into shape. If thin, a drop of almond or olive oil, or the least soupçon of pomatum or vaseline should be rubbed into them before brushing. The eye needs the protection of dark lashes and brows and is strengthened by them, so this is care which health dictates as well as beauty. Staring, ill-shaped eyebrows, with coarse bristling hairs, can be disciplined into the way they should grow by running the mucilage brush across them at night. Be sure the mucilage is sweet and fresh, or else make some of gum tragacanth or quince seeds dissolved in elder-flower water, rosemary, or rose-water. Let the gum dry on, and wash off in the morning with warm water. A month or two of treatment will reduce quite unruly brows to subjection, and coarse hairs will drop out.

An alcoholic water or pure alcohol or perfumed glycerine, rubbed into the eyebrows with a finger-tip, will improve their lustre and promote growth. A French ointment for the same purpose is this:

BORATED VASELINE.

Red vaseline	10 grammes
Boric acid	10 centigrammes

When from sickness or other cause the eyebrows or a part have fallen entirely, Dr. Vaucaire commends the following:

LOTION FOR FALLING EYEBROWS.

Tincture of rosemary	10 grammes
Tincture of cantharides	2 grammes
Spirits of camphor	100 grammes
Alcoholat de Fioravanti (a French toilet-water)	100 grammes

Hungarian Water or fine Cologne could be substituted for the "Fioravanti." The bald spots only are to be lightly frictioned with a bit of cotton or a small brush dipped in the lotion. Of course anything used upon the eyebrows must be put on delicately and in minute proportions. The object is not to stimulate large, heavy, or broad brows; but to give velvety softness and close growth to a narrow, arched band. It is very disfiguring and gives a sinister cast to the countenance when the brows grow together, and this should be remedied by the use of depilatories or electricity,—concerning which see Chapter VIII. Certain of the pomades there given—especially the Dupuytren—can also be used with good effect upon the eyebrows. Other remedies to promote their growth, which can be used also on the eyelashes, are the following:

EYEBROW AND EYELASH TONIC.

Lavender vinegar	2½ ounces
Glycerine	1¼ ounces
Fluid extract of jaborandi	2 drachms

The formula for lavender vinegar can be found by consulting index. Agitate ingredients till thoroughly incorporated. Apply to the eyebrows with the brush; and to the lashes with a tiny camel's-hair paint-brush. The brush must be freed from any drop, and passed lightly along the edge of the eyelids, exercising extreme care that no minutest portion of the lotion touches the eye itself. The extreme sensitiveness of the conjunctiva, which covers the entire exposed surface of the eye, is the protection Nature has given this delicate structure, upon whose perfection so much of our happiness depends. But for it we might carelessly let many harmful particles remain till irrevocable injury was inflicted.

STIMULANT POMADE.

Red vaseline	2 ounces
Tincture of cantharides	1 drachm
Oil of lavender	15 drops
Oil of rosemary	15 drops

The growth of the eyelashes is greatly promoted by clipping them at regular intervals for a few months. As the task requires a firm, confident touch it is easiest done by another, yet can, if necessary, be done by one's self. Long, outward-curling lashes are a very great beauty in themselves, besides affording great protection to the eye, and a good deal of painstaking in their care is worth while. It is said that rubbing them three times daily with an infusion of white wine and mint will stimulate their growth, as also that of the eyebrows. M. André-Valdès recommends bathing the eyes frequently in a warm infusion of corn-flowers or of chervil, which will strengthen them and make the lashes grow long and silky. Directions are given to infuse sixty-five grammes of the corn-flowers in a quart of water for twenty-four hours; then strain and distil the water over a slow fire. The infusion could also be made with distilled

water by steeping—*not* boiling—for six to eight hours, and then letting it infuse for thirty-six hours before straining.

QUININE OINTMENT.

Sulphate of quinine..... 5 grains
Sweet-almond oil..... 1 ounce

This is to be applied to the lashes with a fine sable pencil or tiny brush as directed for the foregoing, and I give the formula because the substances are easily obtained.

M. André-Valdès mentions another remedy for which wonderful virtue is claimed both in strengthening the sight and developing the lashes into a bewildering fringe. It comes, like so many of the most wonderful cosmetics, from the beauty-worshipping Orient, and is accredited with centuries of use. It is a powder called *Mesdjem*, and is said to be the veritable *Es-Med* used by the tribe of Ammon three thousand years before the coming of Christ. Mahomet mentions it in the Koran; as, "The most precious of your collyria [eye medicines] is *Es-Med*, for it strengthens the sight and makes the lashes grow." Certain of the Parisian perfumers have the powder for sale, and it seems to be used as are *kohl* and *kohol* to darken the edges of the eyelids and the outer corners, to make the eyes look larger and impart to them a languishing expression.

This is a most objectionable practice which can be tolerated only upon the stage, where "distance lends enchantment," and where the exigencies of light necessitate the practice of *maquillage* to accentuate and bring out the features. When Mahomet prescribed the practice for Arabian women of darkening the undersides of the eyelids, it was in order to protect them from the glaring light of the sun on the desert sands which frequently caused ophthalmia. Thus it was a hygienic practice which had nothing in common with modern *coquetterie*. The effect produced is so flagrantly artificial, when confronted in street or drawing-room, that all women of refined sensibilities shun it.

Mahomet is also credited with recommending the use of *kohl*, a preparation of antimony which has been used from Cleopatra's day to our own time, and is in as great demand in Europe now as in the Orient. It is applied, in the Moorish and Egyptian fashion, with a tiny probe of ivory, wood, or metal, having a blunt point. This is moistened with the lips, or dipped in rose-water, then rolled in the powder, which is a bluish-gray substance, and drawn along the edges of the eyelids, so that the lashes as well as the borders of the lids are tinted with it. *Stibium*, or antimony-glance, a mixture of sulphur and antimony, is said to have been used by the ancient Babylonians in the same way. They are both of them harmless, but have no other recommendation to the women of the Occident, who do not spend days traversing barren sands.

Kohol—which I believe to be the same thing referred to as *kajul*—is the condensed smoke from burning camphor which Oriental women collect and form into a paste. It is applied to the eyelids and lashes in the same way as kohl, and is thought to enhance the brilliancy of the eyes very much. This may be true of its effect on the stage, and its use can be commended for private theatricals and *tableaux vivants*. But American tastes, and morals too, will have to change entirely before smudged eyelids will ever be looked at in real life other than askance. The most lenient criticism it is possible to pass is that it gives a woman a doubtful appearance.

It is a quite permissible artifice to use any of these substances to deepen the color of the eyelashes, and with a deft touch in the outer corner seem to lengthen the eye. Other expedients of Oriental women for staining or dyeing the eyebrows and eyelashes are to rub them often with juice of elderberries, or with a burned clove or cork; and the black of burned incense, resin, or mastic is mixed with almond-oil and applied as an unguent.

These black dyes must be used only when the hair is

black or dark brown. A blonde must tint her brows and lashes a light brown, and other shades correspondingly. One of the most harmless of black dyes for the purpose and most generally used in France and this country is

TEINTURE CHINOISE.

Gum arabic	4 drachms
India ink	7 drachms
Rose-water	1 pint

Powder the ink and the gum, and triturate small quantities of the powder with rose-water till a uniform black liquid results, absolutely free from granules. Then put the liquid in a bottle and pour over it the remainder of the rose-water. Askinson contributes to the confusion already existing in the names of these Oriental cosmetics, by calling this familiar rose-solution of India ink "*Kohol*"! It may be applied with a sable pencil or very tiny brush dipped first in borated water. For brown dyes, see Chapter VIII., and note also cautions there given concerning the harmony of the brows and lashes with the hair. Another black dye commended by André-Valdès and much used in Europe is this:

LA FOREST'S COSMETIC LOTION.

Red wine	12 ounces
Coarse gray salt	1 drachm
Sulphate of iron	2 drachms

Boil for five minutes in a covered, glazed pipkin or a glass jar; then add:

Oxide of copper (verdigris)	1 drachm

Boil two minutes longer; then remove from the fire, and add:

Powdered Aleppo-galls	2 drachms

Agitate occasionally, still keeping closely covered. When

partly cooled, pour into permanent bottle, add a tablespoonful of French brandy, cork closely, and continue frequent agitation for a few hours. After repose for two days decant clear portion, and filter, if necessary. It must be applied very carefully with a finely pointed, tiny camel's-hair brush, and should not touch the skin as it stains badly. After ten minutes, wipe off with a warm cloth,—any particle which has stained the skin should be wiped before it dries on,—then wash the brows and lashes in warm water. Cooley pronounces this "nothing more than a rude species of weak cupro-ferric ink." But it is exploited under various fancy names, and used for the hair as well as eyebrows and lashes.

When there is a disposition to that annoying affliction, a stye, frequent bathing with myrtle or chamomile water is a preventive measure. If the pain of one gathering is felt, take a drop of tincture of belladonna upon a lump of sugar, and bathe the eye with warm elder-flower water. The diet should be plain and nourishing without spicy or stimulating foods, and late hours or excessive fatigue should be avoided. Dr. Monin recommends this:

STYE POMADE.

White vaseline.....	8 grammes
White precipitate.....	10 centigrammes
Oil of birch.....	10 centigrammes

He also directs bathing the eyes night and morning with plantain-water, in which a little bicarbonate of soda is dissolved, perfumed with a few drops of Eau de Cologne. A solution of one drachm of pure sal-ammoniac in a half-pint of distilled water is also pronounced efficacious to arrest the progress of styes and to correct the conditions producing them. An ointment made of thick, sweet cream in which one grain of yellow oxide of mercury has been thoroughly blended is excellent, both as healing and preventive, and it is one of the best remedies for infiammation of the eyelids—ophthalmia—or conjunctivitis. Red oxide of mercury is often recommended in eye-ointments, but the United

States Pharmacopœia cautions against its use as it is not so soluble as the yellow, and consequently may inflict injury. Mercury, however, is so powerful an agent, and the eye so sensitive an organ, that the advice of a physician should be had before its use.

'Tis said that the application of ice to a stye will sometimes "scatter" it; and rubbing the eyelid with camphor gum will in some cases drive the afflicting pest away. When, however, it neither "scatters" nor comes readily to a "head," it is best to apply a warm poultice of flaxseed or bread and milk; lance with a fine needle, and bathe with warm or hot water, following this with one of the astringent lotions already given. Alum or calendula water—a teaspoonful of the latter in a half-glass of iced water—are also useful to heal and allay the inflammation.

When a waxy mucus is secreted about the eyelids which sticks them together during sleep it indicates a diseased state of the ciliary glands; it is often, also, the first symptom of ophthalmia, or may develop into that if neglected. Nitrate of mercury ointment—*Unguentum Hydrargyri Nitrita*—is the specific, and it is quite as valuable for these inflammations of the eyelids as the celebrated Golden Ointment, which is almost the same composition. This trouble is very apt to involve the eyelashes, and will certainly cause them to fall if not promptly checked. People of lymphatic, gouty, and rheumatic temperaments are particularly liable to inflammatory disorders of the eyelids, and producing causes are exposure to severe cold, drying winds, dust, gritty particles, smoke and irritating fumes, excessive fatigue, prolonged vigils, vitiated air, repeated violent weeping, and eye-strain from continued application by artificial light.

Ophthalmia is an inflammation of the conjunctiva, which is the lining membrane of the eyelids, extending also over the exterior part of the eyeball. Of course, the best medical advice should be had when attainable. But patient care

and absolute cleanliness, together with the application of simple lotions and ointments, will often effect a cure. The general treatment is fomentations with warm—or even hot—water or a decoction of poppy-heads or a borated infusion of chamomile. For the latter, a spoonful of boric-acid crystals is dissolved in a cup of the chamomile. Apply very gently and *soakingly* with antiseptic cotton rolled into a little baton-like wad. Strict attention must be paid to diet, avoiding all stimulants and drinking aperient waters freely.

When inflammation subsides, tepid water, then cold, can be used, and a very mild, cooling, astringent eye-water. Those containing sulphate of zinc, alum, or vinegar are the best. When ophthalmia is chronic or follows measles, fevers, or rheumatism, the diluted ointment of nitrate of mercury—also called "citrine ointment"—and nitrate oxide of mercury are excellent. One part of the mercury ointment is mixed with three parts of fresh lard, using an ivory or wooden knife to beat them together. This is also commended, by an English oculist, to be used in any inflammation of the eyelids, from the moment the secretions are observed to be disordered. In every form of the disease frequent bathing with warm water or milk and water is necessary; and the use of astringent lotions is advised to be continued for some time after an apparent cure, to prevent a return of the trouble.

An eminent French oculist considers a solution of morphia a specific for the disease. He puts one drop into the eye two or three times daily, and directs the usual warm bathing, or fomentation, to be frequent. The officinal—meaning medicinal,—that of the United States Pharmacopœa—solution of hydrochlorate (or the acetate) of morphia may be used with great benefit to bathe the eyelids and brow, leaving it to dry on; as it is colorless, it can be applied during the day as well as at night. It not only affords, sometimes, remarkable relief in cases of ophthalmia, but also

strengthens weak vision and soothes weak and irritable eyes. Laudanum acts only less efficiently in the same way; but, as it stains, its use must be confined to night. When there is much pain or irritability a single drop of the solution of hydrochlorate or acetate of morphia, or wine of opium, previously diluted with two or three drops of water, may be put into the eye with a glass dropper.

If the secretions of the eyelids are thick and crusty, after warm fomentations, this pomade is advised by Dr. Vaucaire:

Oxide of zinc	5 centigrammes
Subacetate of lead	5 centigrammes
Oil of sweet almonds	50 centigrammes
Vaseline	6 grammes
Tincture of benzoin	5 drops

Very great care is necessary in compounding all medicines to be used upon the eyes; and the ointments, especially, Cooley pronounces "unfit articles of domestic manufacture. Slight errors in the proportions of the ingredients, or neglect to reduce the hard or gritty substances which enter into their composition to impalpable powder, has often been followed by very serious consequences, and even blindness." Therefore, it is advisable to have these remedies prepared, when possible, by a competent pharmacist.

The following formulæ for the astringent lotions, or eye-waters (collyria), to be used when inflammation from ophthalmia has subsided, are simple and quite within the scope of domestic manipulation:

Distilled vinegar	1 ounce
Distilled water	9 ounces

Any good pure vinegar may be substituted for the distilled, if that is not obtainable, and when necessary boiled soft water can be the diluent; if not crystal-clear, filter

through porous paper. This collyria is used in mild chronic ophthalmia, and for weak, blear eyes. When flying particles of lime or mortar lodge in the eye, this will remove them. An ounce of good brandy or half as much rectified spirit is sometimes added, and makes it more efficacious when the membranes are relaxed.

Sulphate of zinc	20 grains
Distilled water	½ pint

Agitate till the sulphate is dissolved, and filter through porous paper. It is used in any sort of ophthalmia, chronic or ordinary, as soon as the inflammation abates, and is also commended for weak, lax, watery, and irritable eyes. When there is much pain its efficacy is increased by the addition of two ounces of wine of opium, or five to six grains of acetate of morphia.

Alum (powdered)	10 grains
Sulphate of zinc	10 grains
Distilled water	½ pint

Agitate till the solids are dissolved, and filter. When necessary, in this and the preceding lotion, boiled soft water can be substituted for the distilled. It is to be used to alleviate and cure similar conditions. With all lotions, pour a little into a saucer from which to wet the cloth or cotton.

For continued redness of the eyelids borated lettuce-water is advised, and if the condition is one of great obstinacy the following:

Borax	1 gramme
Quince-seed mucilage	10 grammes
Water of cherry-laurel	5 grammes
Distilled water	100 grammes

Agitate till thoroughly mingled. For use, dilute with three times as much distilled water and with the aid of a

glass dropper put from three to five drops into the eye. Dr. Vaucaire recommends with this treatment to take in the morning two spoonfuls of cod-liver oil or of syrup of iodine of iron.

An excellent remedy for granulated eyelids, a condition which is another menace to the thickness and beauty of the lashes, is to make a paste by rubbing a piece of alum into the white of egg till a curd is formed. Apply it to the lids at night, bandaging the eyes with soft linen.

The acute inflammation sometimes caused by exposure to a cold wind is usually quickly relieved by fomentations with hot water, followed by bathing with a wash of witch-hazel and camphor-julep in equal parts, which can be applied at frequent intervals till relieved. Both of these, separately, seem to act as specifics with some constitutions in all trifling disorders of the eye. Witch-hazel when diluted with half as much water can, with excellent results, be dropped directly into the eye. This treatment quickly relieves the heat and burning in tired eyes too long kept on a strain by exposure to glaring artificial light.

An English remedy pronounced excellent for sore, weak, and inflamed eyes is compounded from this formula:

EYE OINTMENT.

Petrolatum	3 drachms
White wax	2 drachms
Oxide of zinc	21 grains
Yellow oxide of mercury	2 grains
Oil of lavender	10 drops

Melt the wax and petrolatum in a *bain-marie*, and stir constantly while cooling; triturate with the oxides in an earthen bowl, beating the mixture with an ivory or wooden paddle or spoon; add the lavender last of all. Remember in applying any ointment or eye-wash that the eyes must be perfectly cleansed first with warm water and carefully dried.

To enforce the caution already given concerning the use of belladonna, I must add that the disease amaurosis, which

is the loss of sight without visible defect of the eye, is sometimes caused by exposure to the vapor of Prussic acid or to the application of belladonna, both of which are means adopted to artificially enlarge the pupil of the eye. Though both are useful medicines they are also active poisons, and their misuse is certain to impair the vision, if it does not cause blindness.

Everything which affects the nervous system unfavorably is a menace to the strength of the eye. Hygienic habits of life and everything that promotes and increases the general health invigorate it, and help to keep it unimpaired till late in life. The reckless misuse and abuse of the eyes in youth and early adult life is amazing, and it is so universal that it would be as hard to find one woman or girl who uses her eyes carefully as to tell where the next great gold-field will be discovered.

The vision of the eye is perfect in proportion as its focus is adjusted perfectly, and as no broken-up rays of light strike upon it with a glare that causes the pupil in self-defence to contract. Too much light is as great an evil as too little. In reading, writing, or sewing, the light should come from the left, preferably over the left shoulder. It should be clear and abundant without being dazzling, and it is better when it is not screened or sifted through curtains, but comes directly from the open air or through clear glass. Broken light, coming from two directions, is an unfortunate combination for the eye, and should not be tolerated, if ingenuity can invent an expedient to overcome the difficulty.

Flickering light should be avoided, as also reading in a reclining position, and straining for a steady focus by trying to read in the cars or in a moving carriage. When sitting in the open air, the sunlight should not fall on book or work, and if the light is strong and intense the eyes should be shaded by a hat-brim. It is suicidal to use the eyes at all in the fading twilight. Nature provides this half-light as an

imperative call for surcease from labor, and we should make this between-times yield us precious rest, to carry us through added hours of labor—if need be—by artificial light to the end of the day's goal. The eyes need it and the nerves as well; and a half-hour's intercourse with one's soul in an elysium of joyous, expectant waiting, floating on the full tide of psychic ether, will bring us waves of inspiration in whatever task we take up when we buckle on the harness for the home-run.

The mobility of the eye and the natural fluidity of its humors are greatly promoted by the habit of frequently changing the focus. The eyes should be often lifted from the printed page, writing, embroidery, or special work which requires their close, fixed gaze. They should be turned in every direction, far and near, sidewise, upward, and downward. The oftener they can be directed to some distant object, as far-away hills or the horizon line, the better, for the normal eye is then at rest. The shut-in, street-bound outlook of city life promotes rapidly failing vision, for muscular effort is required to constantly adjust the eye to near-by objects.

An admirable expedient for resting the eyes when the windows afford no view, is to hang your mountains and fine distant perspectives on the wall in the form of pictures. The moment you see little black specks floating before the eyes close them for a few seconds, then look off at the farthest mountain in your sight. Such pictures are especially needed in a room where the eyes are severely taxed, as they exercise a much more tonic effect upon them than portraits or flower pictures, or other flat decorative objects, as plaster casts. Frequent two- or three-minute rests are wonderful eye-savers, and in the sum of the day's work, the time will not be missed, being more than made up by the greater ease with which work can be done.

The eyes should never be steadily employed by artificial light; and, especially after a long day's constant use,

forcing them to work at night is one of the most mischievous, eye-spoiling habits, at whose door countless ruined eyes can be laid.

Rubbing the eyes on waking in the morning, or when sleepy and when bathing, is earnestly deprecated, as all pressure or harsh movements tend to flatten the eyeball and hasten the time when the sight will dim and require the aid of glasses. They should always be touched with utmost gentleness and wiped with a soft towel.

When myopia—short-sight—is caused by abnormal density of the humor of the crystalline lens, it is sometimes corrected by rubbing the forehead above the eyebrows, and the temples with strong tincture of ginger or capsicum or with Beaufoy's acetic acid. Swollen eyes and weak sight are also sometimes relieved by the same treatment. Myopia that is caused by too great convexity of the cornea and lens, can in many cases be entirely overcome by passing the fingers gently over the eyes several times from the inner corner to the temple. Repeat at intervals during the day. The effect will, of course, be gradual. A massaging instrument to accomplish this very purpose has been invented by M. Dion. It is adjusted with the minutest delicacy and accuracy, and is said to be very effective in promoting the normal condition of the eye.

For failing, weak, or long sight, all of which result from the flattening of the cornea and lens, and require the magnifying glasses of advanced age, the rounding-up can be promoted by pressing the fingers with gentle stroke from the outer angle of the eyes inward towards the nose, both above and below the eyeball. It is said that this treatment has restored eyes impaired by age as well as by excessive use, and that with others the habit of so manipulating the eyes has maintained their vigor to advanced age. Observe that extreme gentleness must characterize the touch, or harm instead of benefit will result. Taking the eyeball between the thumb and forefinger horizontally and pressing it

gently together will also aid in preserving its rotundity, and thereby in retaining the sight.

Weary eyes and those which are being constantly overtaxed should be bathed from time to time in some stimulating lotion, and in addition to the remedies and treatment already advised, here are some formulas from French authorities which may suit specific cases:

EYE STIMULANT.

Filtered rain-water (or distilled water).	1¾ pints
Sulphate of zinc.....	30 centigrammes
Orris-root powder.....	1 gramme 55 cgm.

Put all in a bottle and agitate, then set in a cool place for twenty-four hours; strain through porous paper. To apply, pour a small quantity into an eye-bath or other convenient receptacle and open and shut the eye in the solution so the eyeball will be flooded with it.

A more elaborate formula of Dr. Desparquet's is this:

BALSAM WATER FOR THE PRESERVATION OF SIGHT.

Rose-water (of pale rose-petals).....	500 grammes
Water of young grapevine sprigs....	200 grammes
Lettuce-water	150 grammes
Myrtle-leaf water.....	50 grammes
Eau de Cologne (à 22%).....	50 grammes
Tincture of myrrh.....	15 grammes
Tincture of saffron.....	10 grammes
Tincture of ambergris.....	10 grammes
Pulverized white sugar.....	15 grammes

Of the substances, the grapevine sprigs would have to be steeped at home, and, if out of season, from hothouse vines. The myrtle is the *myrtus communis* of Southern Europe, the oil of which is used by French perfumers. The leaves are not common in this country, but the French *eau d'anges*, an aromatic water, is distilled from them, and could be used in their place. The substances are put into a glass jar and left to infuse for ten days or a fortnight, agitating daily; after

which the decoction is filtered till perfectly clear. One spoonful of the balsam in a half-glass of water is used to bathe the eye several times a day, applying with a cotton baton or a bit of soft linen. If the eyes are more than tired and give evidence of failing sight, three to four drops of the pure balsam should be dropped into the eye at bedtime and on rising in the morning. In both cases this hygienic and tonic lotion is claimed to afford great relief.

For that condition of sensitiveness which causes the tears to flow freely when the eyes are exposed to the cold, this lotion is commended:

Corn-flower water	200 grammes
Alcoholat of Montpellier (French toilet-water)	20 grammes
Hydrolat [water] of cherry-laurel	10 grammes
Boric acid, pure	8 grammes

Agitate till thoroughly mingled; let stand a few days, then filter. Always remember that any eye-water must be crystal clear, and the filtering must be repeated if necessary. The lotion is to be diluted with a little very hot water and the eyes bathed with it three times daily, and compresses soaked in the solution are to be left on the eyes for ten minutes after the bath. The eyes should be protected with a gauze veil when going into the open air, and bathed with hot water upon returning, before applying the compresses. Hot-water bathing is good for all eyes, and cold water should never be applied to weak or diseased ones.

When weak and tired eyes resist all nursing and their use causes headache it is most unwise to neglect consulting a skilled oculist. A whole train of mysterious evils affecting the entire physical economy is often the consequence solely of eye-strain, which from over-taxing certain sets of nerves depletes these and sets up a counter-irritation in sympathetic nerve-centres quite remote from the originating evil. In women, acute troubles of the genital organs have frequently been caused by eye-strain, the removal of which has

cured the affliction; in many cases even averting painful and dangerous operations. Many forms of partial and total blindness have resulted simply from neglect, the originating cause being in the majority of cases something which intelligent care could have relieved.

Myopia could frequently be averted if the eyes were properly examined and cared for in youth. It is in the school days, in the "teens," that this trouble is most commonly developed, "before growth is completed, and while the tunics of the eyes, like all other bodily structures, are comparatively lax and yielding." If the strain thrown upon the tunics of the eyes by undue and prolonged convergence be averted by the use of spectacles for studying, reading, and all work requiring close focus, it is more than probable that when maturity is reached the glasses can be laid aside; and this protection and care will have developed a strong pair of normal eyes.

Squinting is sometimes caused by childish tricks of imitation and face-making. When one eye only is affected it is sometimes remedied by blindfolding the sound eye for several hours daily. If the trouble is congenital, it should not be neglected, as it indicates an abnormal condition of the eyes which will increase with age, and may seriously impair the vision.

When a cinder, dust, chaff, or any foreign particle enters the eye, the impulse to rub it must be restrained. If the eyelids be immediately closed, tears will often bring the offending particle out onto an eyelash; sometimes it can be drawn into the tear-duct and out through the nostrils, by vigorously blowing the nose, while holding the upper eyelid out from the eyeball by means of the lashes. Almost instantaneous relief is afforded by inserting a flat linseed into the eye. Close the lids, and the seed, whose oily gluten the moisture of the eye will quickly soften, will slide imperceptibly round the eyeball, and soon emerge at one corner bringing with it the painful intruder. This will prevent all

injury to the eye or ensuing inflammation. It is an excellent precaution when travelling to carry a few of these seeds in one's pocket-book.

Much needless alarm is felt over the appearance of black specks floating before the eyes. They are perfectly harmless, normal, and exist in all eyes, but we notice them more when the eyes are fatigued. These vagrant wanderers are *muscæ volitantes*, fine filaments which carry upon them the remains of cells and the germs of others, and which float freely in the vitreous humor that fills the large, central cavity of the eye. Certain refractions of light cause them to cast shadows at times upon the retina. They are made more conspicuous by any condition which alters the density of the humor.

The disease glaucoma, a rapid degeneration of the eye which was formerly considered incurable, can be cured by operation if treated in time. A premonitory symptom is the failure of accommodation, and consequent necessity to increase the strength of the glasses at short intervals. It is the symptoms attending this disease which have caused the misapprehension concerning the hurtful effects of wearing glasses which magnify too strongly. When it is known that watch-makers and other artisans who work with a single magnifying glass of great power, are, as a class, singularly exempt from eye-troubles, it will be recognized that the prejudice has no foundation.

When glaucoma has run its course in destroying the sight, it is said that the removal of the eye may be prevented by treating it with one of the small Japanese hot-boxes. Cotton is placed over the eye and the little fire-box bound over it. This is on the principle which will in time, I think, be generally recognized, that the health of the eye and the normal condition of its aqueous humors is best maintained by warmth.

In all ages the wise men and women who studied the woods and "herbs and things" have delved in Nature's

storehouse for remedies to strengthen the eye and heal its diseases. In the "Code of Health of the School of Salernum," written in the early twilight of the Middle Ages and in poor Latin, but which quickly took its place beside the "Aphorisms of Hippocrates," I find mention of many of the herbal remedies which are in use to-day. I cull from it the following quaint dictums concerning the eye:

"Fennel, vervain, rose, celandine, and rue,
Cure filmy eyes and give them sight anew.
From each a potent eyewash may be made
To strengthen them when sight begins to fade."

THINGS HURTFUL TO THE SIGHT.

"Much bathing, Venus, blust'ring winds and wine
And wounds, or any serious blows, in fine,
With lentils, pepper, mustard, also beans,
Garlic and onions—by such hurtful means,
With too much labor amid dust and smoke,
Weeping, or watching fires, we thus invoke,
With long exposure to the noonday sun,
The direst wrongs that can to sight be done;
But vigils are, by far, more noxious still
Than any form of single-mentioned ill."

Though somewhat involved, the meaning is clear, and it arraigns the same evils which menace eyes to-day, proving the inherent carelessness of men and women in the use of their most precious sense. The brilliant, blatant, dazzling civilization of our aggressive era has inflicted an additional peril in the floods of almost blinding light which electricity pours upon us in all public places. There should be protest, earnest and convincing, against this over-effulgence which is an abuse of what is primarily a great convenience and comfort, but which under present practices and the influence of rivalry is a steadily increasing evil.

Much injury is also inflicted upon eyes by the utter thoughtlessness of women in choosing their lamp-shades.

These aggressively obtrusive things, which occupy so incongruous and inappropriate a field of decoration, are too often marvels of millinery hideousness; and their iniquity is increased by the fact, that, necessarily because of their size, their color is chosen to match the scheme of the room decoration, and not at all with reference to the hue of the light which will in consequence flood the room. These brilliant-colored shades—whether green, yellow, red, or pink—should be confined to hall and drawing-room, where people neither read, write, nor sew. If you have any regard for your eyes you will not use them by artificial light unless it is clear, steady, soft, and white.

The eye is most sympathetic to the general nervous condition and to mental states. I have shown how the secretions of the skin change under temperamental conditions; and the secretions of the eye also are modified in quality and amount by the state of mind. Anger, grief, and worry cause the surface of the cornea to become dull and dry from the diminished secretions. The whole body is, of course, lowered in tone, but the eyes are first to show it, and when these conditions are chronic, they become dull and sunken, and unequal to any continued effort. I have already pointed out the effects of joy and all beneficent emotions, which beam from the eye first, and then irradiate the whole person. You see, no matter how artfully the tongue may dissemble, howsoever perfectly controlled be the emotions, it is almost impossible for the eye to dissemble. Hypocrisy, crookedness, all unworthy thoughts, inevitably betray themselves in the pellucid mirror of the eye.

The continued exercise of the eye on fine work tends to its development and the preservation of its strength, provided it is not abused by over-fatigue, or the strain of use under unfavorable conditions. The same rule applies to it that applies to the whole body: it must have sufficient exercise to stimulate the normal metamorphosis of tissues, which in perfect health is a never-ceasing condition.

It has been proved that acuteness of vision is very much a matter of practice, and the mental attention given to the subject. The Indian's keenness of vision is due to the exercise and training his eye receives, and none has a wider range of accommodation. Idleness of the eye is only less harmful than misuse. Simple rest, and change of occupation so as to be much in the open air, will very often completely restore eyes that are failing from continued close work. Some abnormal conditions of the eye are due entirely to vitiated air, and are rapidly restored in the open.

The cultivated eye is as profoundly and pleasurably affected by harmony of color as the ear is by harmony of sounds; and brazen, intense colors inflict upon it the same pain that discordant sounds do upon the auditory nerve. This sensibility of the eye, though, is more a matter of culture than that of the ear. Persons who have no sense of time can seldom acquire it; but both the pleasures and the vision of the eye are largely increased by judicious training.

The strongest and most dominating influences of life are received through the eye, and it is impossible to overrate the importance of cultivating a power of observation that shall critically discriminate between objects of beauty and loveliness and those which offend by violation of inherent laws of association and harmony. Nature makes no mistakes, but men and women make a great many.

To be endowed with a sense of beauty is a pure gain which brings no evil with it, and the proportion in which different people can see beauty in simple things is an infallible scale by which you can measure the degree of their culture and self-resource.

Did it never occur to you that what we admire, that we are becoming by an inevitable law of cause and effect? It is only the crude, uncultured nature which goes stolidly through life unconscious of the beauty that often may be enjoyed by the mere lifting of an eye. Self-interest is so belittling that the eye is blind to all but personal things,

and thus cannot see the beauty always in Nature, in the natural landscape. Revery, fancy, imagination, and, best of all, large sympathy, which is so suggestive, weave associations about natural objects and develop this sense of beauty; and those but half-live who know not the pleasures thus won to ornament and refine life. The more we cultivate this sensitiveness, the broader is the field of our enjoyment.

The pleasures of memory, also, depend almost entirely upon the keenness with which the eye has been trained to observe, and, thereby, convey accurate impressions to that vast reference-bureau in the sensitive gray cells of the brain. There is such a difference in people in this respect that one will be said to have eyes on all sides of her head, while another, passing through the same scenes, can recall no more than if she suffered from acute myopia. Here again the dwarfing limitation of self-interest and self-consciousness, and the stimulating expansion of a lively concern in all that affects the welfare of humanity, are important factors determining the amount of uplifting joy that shall enter into each life.

"The aim of culture is to make the soul a musical instrument which may yield music either to itself or others, at any impulse from *without;* and the more elaborate the culture, the richer and more composite the music."

CHAPTER XII.

THIS SO PONDEROUS FLESH AND THE OPPOSITE CONDITION.

"Ladies! (I hope there's none behind to hear;)
I long to whisper something in your ear—
A secret, which does much my mind perplex."

"For if she will, she will, you may depend on 't,
And if she won't, she won't; so there's an end on 't."

"LIBERTY exists in proportion to wholesome restraint." The moment a woman begins to be conscious of the weight of her flesh, that very moment she must face the questions: Shall I allow this encroaching master to overcome me? Am I not strong enough to assert my freedom of will?

It means a battle *à l'outrance* betwixt the *ego* and the flesh. And the woman who *wills* shall win every time. "A strong purpose creates its own means of accomplishment." It is a truism that superfluous flesh enervates; and all experience proves that what was true in Rousseau's time is still the rule: "The weaker the body the more it commands; the stronger it is, the more it obeys." And the price of freedom for woman is to exercise such self-restraint in the ordering of her life as shall keep her mistress of her own small kingdom.

Every additional pound of flesh beyond that required to round out the form to artistic lines and harmonic proportions is a menace to woman's beauty and health and usefulness, and, consequently, to her happiness. She who is wise, and has any comprehension of the joy of an active

life, will never let her flesh dominate her. That beauty and an excess of adipose tissue are incompatible is one of the fundamental theories of what constitutes true physical beauty, and ranks next to the common basis of health, with which it goes hand in hand.

But obesity is not merely a beauty-destroyer. There is a stronger charge yet to make against this most uncomfortable condition. Even roly-poly plumpness takes all the youth out of a woman's face and step; and every ten pounds added beyond plumpness ages her. It is only in recent years, comparatively, that corpulency has been recognized for what it is, a disease; and that it is rapidly increasing is evident to all who travel much or who live in large cities or towns. It is one of the penalties which frail, weak-willed humanity has contrived to evolve out of the privileges of our high civilization. "Riches and poverty alike war against health."

While over-indulgence in the good things of life—the rich fat-producing foods which are so unwisely and so lavishly supplied on our generous American tables—is a chief producing cause in the accretion of this so ponderous flesh, it is ably aided and abetted by indolence of mind and body. Women who are alertly active, with many interests crowding their lives, which necessitates sufficient exercise to maintain health, can without harm enjoy all the good things of an elaborate *cuisine*. They are simply supplying the waste of a nervous temperament which makes large demands.

The phlegmatic temperament, however, which takes life easily, is oftener than not prone to self-indulgence, and therefore peculiarly exposed to be a victim of over-assimilation and mal-assimilation of food. If allowed to run its course the disease is one of constant encroachment, and may bring in its train most painful complications.

Could the woman who has let this monster of flesh overmaster her by such insidious degrees that she cannot re-

member the simple joy of lightness of foot, but for a moment exchange her corporal prison for the litheness and freedom of the alert Diana, who chases balls over the golf links, she would move heaven and earth and accept any discipline rather than submit to such death in life, as her imprisonment actually is.

From the first trying consciousness of weakness and weight, obesity imposes on its victim daily-increasing, petty pin-pricks of unnamable discomfort, and transforms the simplest pleasures into painful exertion. Wherever the fat woman finds herself in a crowd—and where can she avoid it in the metropolis?—she is in effect an intruder. For, she occupies twice the space to which she is entitled, and inflicts upon her companions, through every one of her excessive pounds, just so much additional fatigue and discomfort.

Too often, this so redundant flesh seems to serve as a bullet-proof armor, repelling all consciousness of the rights of others. The woman who makes a god of her stomach is incorrigible, and I fear no word of mine will avail to induce her to reform. She is the innately selfish woman who makes her very existence an offense.

All defects are in the nature of ugliness, but certain ones are more degrading than others; and of these obesity, which is a deformity, is signally ignoble, for it gives unseemly prominence to the grossest part of the body, and pampers flesh at the expense of the soul and mind. Living to eat is debasing life to its lowest terms, on a plane with mere animal life; and the man or woman who does this often fails to evince even the instinct and discretion with which the higher order of beasts control their appetites.

The French recognize two categories of the gourmand: the glutton and the epicure. Mentally, there is little to choose between the two, as both make gods of the flesh; but the former is the more repulsive, as reminding us of the only beast which will eat till it cannot waddle. The

epicure degrades his soul more than his body, for often his daintiness protects the latter from the utterly disfiguring encroachments of the flesh.

Beauty, grace, elegance, health, and often fortune are the award for self-restraint in the matter of eating. A moderate and simple diet, conforming to the needs of the physique and individual tastes, which usually are but pronounced manifestations of the needs, is a rule of universal application for the promotion of these benefits, which most people long to enjoy.

There are none who will not find it wise to avoid dainties and to proportion their food by the amount of exercise taken. The indulgence in creams, ices, cakes, and pastries between meals, washed down by wines and other drinks, is most provocative of the laying on of fatty tissues. Meals should be at regular hours; and food taken only when appetite gives the warning, benefits the body without supplying a surfeit, unless the meal be indiscreetly turned into a gorge.

They have a myth in France concerning "Schools of Beauty" in America, which are supposed to be quite the rule here. One writer seriously enters into particulars and states that the cult is strictly systematized and infallible; and that in ten weeks' time, for the sum of one hundred dollars, beauties are turned out galore! See what it is to have a national reputation for beauty!

The same authority (?) sagely advises us that in view of these schools and their object, we should begin our studies in them by reforming our aliment. We learn, in this brilliant light by which others see us, that the constant consumption of "candy" is a national vice; and that both men and women indulge themselves without restraint in this deleterious dainty. "It is quite common," says this critic, whom I literally translate, "to meet gentlemen of energetic mien, bearded like sappers, with barley sugar between their lips instead of cigars. They suck the candy as gravely as our men puff tobacco."

Oh, this lime-light held by the stranger "looker-on"! what an illumination it is upon our modes and customs! Really, it is delightfully funny, and reminds one forcibly of the Spanish opinions about the war last summer.

Nearer the truth, however, is the enumeration of our other indiscretions: the washing the "candy" down with iced-water; the extravagant fondness for ices of all sorts; the fresh, hot breads and boiling-hot pies,—all of which together cause the national disease, dyspepsia, as also premature gray hair. We are gravely assured that "They [the Americans] have perfectly white hair before they are thirty years old."

Albeit exaggerated to a ludicrous degree, there is yet a kernel of truth to be found underlying the grossest exaggerations; and shall we not reform the errors which are the basis for these of our amusing French critic? They certainly enumerate toothsome goodies which beguile many women into grave indiscretions and are the first articles tabooed in any reduction diet.

Like every other disorder of the human economy, it is easier to avert obesity than to cure it. Beware of anti-fat patent nostrums, which are recklessly—and expensively—advertised to restore symmetry and health in a miraculously short time. They are most of them compounded, with utter recklessness as to after results, upon a basis of iodine, which has a wonderful affinity for all grease and possesses the property of dissolving the fatty tissues. The continued use of this powerful medicine may produce grave complications.

For the majority of cases it is not medicine that is needed in this condition but an entire reform of habits, bringing the daily regimen into conformity with hygienic laws. The condition would never have existed if they had not been violated; its only permanent and safe relief is in obeying them. Self-denial in the kind and amount of food eaten is absolutely necessary, and exercise also; especially in the open air, and of a nature to encourage and promote the

fullest use of the lungs; for nothing else so encourages the transformation of tissues. Therefore, walking, bicycling, and swimming are excellent methods of working off superfluous fat and leaving the flesh firm and elastic. A condition exactly opposite to that which results from taking any of the suddenly depleting nostrums, which leave the flesh soft and flabby with unsightly folds and wrinkles about the neck, throat, and face.

Unfortunately, as Blaikie, keenly analytic from effect to cause, sharply remarks: "The energy and will-power to do this work, fleshy people often lack." We have all, alas! known women who say to their doctors in substance: "I'll do anything else, but don't tell me to give up eating. I can't starve to death, and I can't live without chocolate creams!" A *fact!*

O, woman, woman! let me entreat you to fix your regard on something more enduring, something more elevating to the race. The health of women and the purity and elevation of their tastes, desires, and ambitions set the standard for the race. Every self-indulgent, weak-willed woman injures not herself alone, but all with whom she comes in contact. Her salvation lies first, in rousing her pride; and next in broadening her vision to the infinite possibilities of life; which she has self-limited to the narrow horizon of "What shall I eat?" "What shall I wear?" and "Where shall I sit or drive?"

This maxim applied to daily life will restore more lost waist-lines to litheness and beauty than all the nostrums ever vended, and the fat thus driven away will never return:

"Let me not yield to sloth, but let me train myself to brave, healthy work for God and man."

In no other morbid physical condition is tight clothing more of a menace than when adipose tissue begins to assert its mastery. At all times it "irritates the nerves, increases

self-consciousness, and consequent awkwardness"; but when it undertakes to hide fat by compressing it, the operation is both disfiguring and dangerous. The tightening of the corset not only increases the undue prominence of the distended abdomen, but intensifies and accelerates the conditions which cause it. When there is an oversupply of fatty atoms in the blood, Nature is much perplexed in finding storage for them, and wherever the circulation is weakest, or rendered sluggish by compression, there she deposits it in the greatest quantity. Compression around the waist prevents the natural exercise of the hip and abdominal muscles, and, therefore, checks the capillary circulation; while indolence encourages an entire relaxation of the muscles over the abdomen, which are, in consequence, distended; and these conditions invite the deposit of fat.

These results are unsightly and deforming; but graver are those which are involved in the consequent accretion of fat above the waist, where it crowds upon the lungs and heart, and impedes the normal action of these vital organs. In this condition, fatty degeneration of the tissues is always threatened; and, of course, respiration and heart action are so seriously affected that great suffering ensues. The æsthetic effect of this horrible constriction of the form will be considered in another chapter.

Concerning other producing or favoring causes of obesity, Dr. John Hartley says: "I believe the fat, flabby, paunchy woman, with feeble, irritable heart and 'inadequate' kidneys, is usually the victim of rebreathed air." A close room will infallibly give some persons abdominal distention within half an hour. Dr. Hartley considers contaminated air an intensely powerful nerve-poison, and believes it to be a greater source of the ills attributed to "hurry and brain-fag" than work. As a poison to the nerves it must, of course, increase any abnormal condition, because unfitting the nerves for control of involuntary actions, and thus malnutrition and mal-assimilation are both aggravated; and

the same cause makes the thin woman become thinner and the fat woman wax heavier.

Adipose is a solid tissue, not supplied with a circulatory system which rebuilds and eliminates throughout its structure. It has to be worked off by combustion which absorbs it, atom by atom, just as it was laid on. The logical regimen for obesity, therefore, is so to change the diet as to cease taking on more fat, and to work off superfluous tissue by exercise.

When obesity has become chronic, only your physician can diagnose the case and recognize what morbid conditions, if any, may have superinduced the disease. Even when originating in over-assimilation encouraged by indolence, it is very apt to become complicated by impaired function of the heart, rheumatism, gout, diabetes, and other kidney affections. To expect that the same treatment will suffice for all cases is manifestly absurd. The physician alone can decide this question, for there are persons who could not submit to any reducing process without being exposed to other grave disorders.

Much suffering and a wearing ordeal can be averted if woman's pride takes alarm upon the first indication of the abdomen's assuming a disagreeable prominence. This is usually accompanied by a sensation of uncomfortable fullness after eating, with shortness of breath, a general stuffiness, and a consciousness of weakness and weight combined that makes activity an effort. This may be made the critical, determining moment when the *ego* shall conquer the flesh. Say not that will is "over-rul'd by fate."

"Necessity or chance
Approach not me, and what *I will is* fate."

Want of exercise being the principal producing cause of obesity, sedentary occupations—or, too often, the lack of any—must give place to activity; out-of-door exercise when possible, and a system of physical movements night

and morning. All dainties and sweets and between-meal tid-bits must be relinquished; bread should be eaten very sparingly, and only of the coarse kinds,—gluten, whole-wheat, and graham. No white bread should be touched unless cut very thin and toasted brown, so it is crisped through. Sea-biscuit and Health-Food wafers complete the list of grain food in which it is safe to indulge. This means, of course, that all the breakfast cereals with their cream and sugar must be dropped from the *menu*, and their place taken with fruit, fresh, when possible. Bananas, peaches, melons, prunes, and grapes are the only fruits which must be black-balled; and apples, oranges or shaddocks, currants, plums, and sour cherries can be eaten freely. These with a fig or two, dates, and nuts and raisins in moderation, must take the place of puddings and pastries for desserts.

The only meats that are under the ban are pork and veal, and the former is unfit to be eaten at any time excepting by those engaged in severe manual labor. Most fish are allowed; but salmon, sardines, mackerel, and eels are too rich and fat-producing, hence on the black-list of beauty-destroyers. It might be an excellent plan to make a list of such articles, as it would help to strengthen weak and wavering resolutions to recognize them for what they are. All forms of Italian pastes are on the list, and most root vegetables, as well as beans, peas, and corn.

An idiosyncrasy of the disease is that most of its victims believe themselves to be small eaters, and cannot understand their own responsibility for the evil. But the real fact is that the kind of food eaten is much more important than the quantity. The carbonaceous foods, the large family of starches and sweets and fats, must be admitted to the diet with the gingerly care that governs the taking of a medicinal poison.

It is a mistake to cut off all fat, as some is needed to facilitate digestion, and the same rule applies to liquids. The fat

is best taken in the form of oil in salad-dressing, and a small portion of butter is permitted. All the succulent green vegetables can be eaten in moderation, especially those containing alkaline salts, as sorrel, spinach, tomatoes, lettuce, and water-cress. Salads are excellent for both luncheon and dinner, but the only soup permitted is a very small portion of clear consommé.

Often, the severest self-denial is necessary with regard to liquids, for it is usually found that those afflicted with obesity have a consuming thirst, and drink abundantly during their meals. During the first week or two of the diet, a small quantity of drink is allowed,—as a glass of white wine diluted with Vichy,—but after that, except weak tea or coffee for breakfast, all drink must be taken before and after meals, and hot water is preferable to cold. Chocolate, old wines and sweet ones, and also beer must be placed on the black-list. Black coffee is permitted, because it is sufficiently stimulating and nourishing to allay the appetite and to encourage activity, and caffeine is nitrogenous and nourishes the muscular tissues only. If distasteful without, it may be sweetened, but it is better to use saccharine than sugar.

A wine-glassful of sassafras tea, if taken three times daily, is beneficial, as it satisfies the craving for food, and it will thus diminish the appetite for forbidden dainties. Some reduction methods advise the taking—a half-hour before meals—of a bit of bicarbonate of soda the size of a pea dissolved in a half-glass of hot water. This may do for three or four successive days, but should be interrupted by a like interval. Better for continual use,—and especially indicated in a gouty or rheumatic habit,—or to alternate with the soda, is a tablespoonful of pure lime-juice in as much water, which may be taken with great advantage before every meal. Almost immediate results in loss of weight are seen when all drink during meals is discontinued.

The diet prescribed by the late Dr. Dujardin-Beaumetz

for the reduction of obesity is quite similar to the celebrated Banting system, the principal difference being that sherry and claret are allowed in the latter, and the meat allowance is more generous. The exclusion of fat in both methods is considered an error. This is the Dujardin-Beaumetz prescription:

REDUCTION RÉGIME.

Breakfast.

Cold meat	50 grammes
Bread	25 grammes
Weak tea, without sugar	200 grammes

Luncheon.

Bread	50 grammes
Meat or *ragout*	100 grammes
Or two eggs.	
Green vegetables	100 grammes
Cheese	15 grammes
Fruit, at discretion.	

Dinner, at seven o'clock, is substantially the same as luncheon, except that fifty grammes of salad are substituted for the same amount of cooked vegetables. Frequent employment of various purgatives accompanies this diet. Exercise according to the strength of the patient, and massage complete the regimen.

It is, of course, imperatively necessary to prevent constipation; but exercise and the use of aperient fruits should regulate this naturally and healthfully. When something more is needed, aperient waters should be drunk, and the fig and senna paste (See index for formula) eaten before resorting to medicinal purgatives, whose after-effects are invariably pernicious.

The last word on the subject of reduction diet is not uttered without reference to Dr. Weir Mitchell's advocacy of skimmed milk, which he avers, if used for the entire or principal food, will safely effect a reduction of a half-pound of superfluous fat daily. If strength require, the milk is

occasionally supplemented with meat or oyster broth, and Swedish movements and massage are a part of the treatment. Women have cheerfully submitted to living on boiled milk for from three to five months, and come out of the ordeal radiant with the consciousness of having regained all the grace and beauty of youthful, *svelte* figures.

Very many French systems of reduction include massage with some preparation of iodine. Iodine soap is much used for the purpose, being rubbed thoroughly into the skin till entirely absorbed. This is also used for the bath, and in connection with a weak alcoholic solution of hydriodate of potassium, massage with which follows the bath. It is claimed that this use of iodine is absolutely harmless, and may be continued for months without disturbing the digestive organs or the function of the skin. Observe especially that the medicament, soap or solution, should be rubbed under the arms and across the lower part of the abdomen, because these places are the most favorable for its absorption. If the legs are very fat rub the soap under the knees. One direction confines the friction to ten minutes' rubbing of these parts; but others direct the massaging of the whole body for a half-hour, giving most attention directly to the parts where the adipose layers are thickest. Should the skin resent the daily massage, different parts may be selected to rub on alternate days.

For that trying condition when the abdomen is especially distended, an excellent drink is made from an infusion of brooklime, a sort of speedwell, the *veronica beccabunga*. The herb must be thoroughly washed, then tossed into boiling water and boiled for a half-hour. It is poured, boiling hot, over a few sticks of liquorice-wood,—if the taste is liked. Three of four glasses of the brooklime-water are drunk, cold, every day, and may be diluted with wine if preferred. Chickweed-water prepared in a similar way is also a time-honored remedy for obesity. Of the freshly gathered, white-blossomed plant take six handfuls for every

quart of water; boil three quarters of an hour; then pour over liquorice-wood and the thinly peeled skin of a lemon.

An old and very clever physician in Paris regularly prescribes for his charming clients a distinctive regimen for every season of the year; with the result that they keep their graceful figures and exquisite complexions in perfect condition all the time. During what is called the "medical spring," from the last of January to the last of April, the daily quantity of food is diminished; and at all times it is limited to a certain number of ounces—according to the person and habits of life—of meat, eggs, milk, green vegetables, and fresh or dried fruits. A great many oranges and apples are eaten and only red wine drunk. During the "medical spring," tea, coffee, and every possible form of alcohol are black-balled; and from the 1st of April to the 1st of November, every kind of fish disappears from the table. Cabbage, beets, turnips, and asparagus are allowed only at infrequent intervals. The results of the wise old doctor's care are so admirable and so satisfactory that he is pronounced a veritable benefactor of humanity.

Baths are an important part of all anti-obesity treatment, and should be taken, at least, once daily, and under some circumstances twice. Turkish baths—once a week—are specially indicated, because the abundant perspiration induced carries off more rapidly than any other means the waste products of the body, and thus favors the combustion of the fat. For further directions about baths see the chapter on that subject. The emollient baths are, of course, not indicated in obesity; but the aromatic and astringent ones will be tonicizing to the skin, and more and more as the fat disappears is it necessary to stimulate the contractile power of the distended skin, otherwise disfiguring folds, creases, and wrinkles will be left. The use of alum in the bath-water is also effective.

This looseness of skin is especially to be guarded against in the care of the face, which must be carefully massaged,

according to the directions already given, with astringent creams and lotions. In addition, the cheeks must be gently manipulated by a rotary motion between the thumb and first and second fingers, placing the thumb inside the cheek. This makes firm muscle and wears off fat. The hot baths, night and morning, are excellent, and their value will be increased if tincture of benzoin or aromatic vinegar be added to the water. The following astringent cream is especially adapted to this condition:

WRINKLE ERADICATOR.

Mutton tallow	1	pound
Glycerine	5	ounces
Tincture of benzoin	2	drachms
Spirits of camphor	1	drachm
Powdered alum	½	drachm
Best Russian isinglass	1	drachm
Orange-flower water	2	ounces

Try out the tallow in a saucepan; it will give about a cupful of fat. There should be equal quantities of it and the glycerine; stir these two together and add the alum. Dissolve the isinglass in the orange-flower water at gentle heat, and beat into the other mixture while that is still warm; add the tinctures last of all, pouring in slowly with constant stirring.

One formula for taking iodine internally I will give, but with the caution, that, though pronounced perfectly harmless, it is a dangerous risk to take such a medicine without first consulting your physician who understands your constitution:

IODINE FOR ANTI-FAT.

Tincture of iodine	30 minims
Iodide of potassium	60 grains
Distilled water	7 ounces
Aniseed water	170 minims

The dose is a teaspoonful in a little water three times daily.

Much safer than any medicine internally, except such mild stimulants of the digestive organs as have been suggested, is the physical exercise which under all circumstances must form the most important part of the obesity cure. Swedish-movement specialists go so far as to assume a rather arrogant and egotistical attitude on the subject, as who shall say, "Ours is the only way"; and yet hedge their directions about with so many cautions as are, under the circumstances, peculiarly unfortunate; because the class of persons whom it is sought to benefit require more than the average encouragement, and are especially prone to take fright easily. In an unfortunate majority of cases, their mental and moral stamina is as much below the average as their physical.

Except in cases of organic heart trouble—and this must not be confounded with weak action, because crowded by fatty deposits, or a distended stomach—and pelvic weakness, physical exercise should be persevered in even though it causes some discomfort. No attempt is made to prove that the road to cure is on a bed of roses. It involves exertion to the point of real, wholesome fatigue, and continual self-discipline; and these be things that the obese woman has usually foresworn, if, indeed, she and they have not always been strangers.

A gradual change should be the aim, and not a sudden one, as that would be too great a shock to the system. But within a week a marvellous reduction can be apparently produced by an exercise of the will in controlling the abdominal muscles and compelling them to hold that organ as tautly as possible. To aid this, the distention of the digestive viscera can be relieved quickly by a few doses of soda, together with the rotating exercises of the trunk and the liver-squeezing movements which are directed to overcome a constipated habit (See Chapter on Physical Culture).

In order to control these relaxed muscles and nerves it is

necessary to become acquainted with them and learn to contract and expand them at will. It may not be easy at first to do this; but five-minutes' practice, night and morning, lying on your back in bed, will soon teach the torpid muscles that they have a mistress. There is no other agent in the world but mind and will-power that can do this; medicines, massage, and movements are equally powerless. But by concentrating your will upon the action you can soon control them as completely as you do your breathing. After you can, at will, expand and contract them,—don't give any assistance with the hands,—move them from side to side, swaying the abdomen, and up and down; and as strength and elasticity are gained, exercise all the muscles inside and outside of the hips and thighs, and rotate those of the abdomen from right to left. This will stimulate the peristaltic movements of the intestines, and give speedy relief to constipation.

Following this, control can be acquired over the muscles of the stomach by expanding and contracting the lower-rib region with the muscular movement of breathing, but without taking in any breath. "One is astonished to learn the number of muscles in these soft parts, of the existence of which we are physically almost unconscious, through disuse and neglect. One by one new ones will appear to surprise us, and the discovery of our ability to move and to actually control them will give a sense of lightness, self-confidence, and will-power, which will greatly lessen, and eventually overcome, that heavy, torpid, bloated, and 'all-gone' feeling ever present with some women."

The fleshy woman must learn to sit and stand correctly,—see Chapter on Physical Culture,—and in doing this she will gain valuable control over her waist and abdominal muscles, and take the first step in preventing the disfiguring deposit of fat about the waist and hips. The relaxed position of bending at the waist when sitting, which makes the figure fall in a heap, is one of the most favoring causes for these

dreaded figure-destroying deposits. From the moment you hold these muscles in the natural position, which is restrained, there is less space for these adipose atoms and their distribution will be more equal. In this way, within a week even, before the weight is perceptibly reduced the figure may be vastly improved.

Breathing exercises must alternate with all movements, and should precede them (See Chapter on Correct Breathing). Raise the arms straight above the head, palms together; take a deep inspiration, rising at the same moment upon the toes and take five or six steps across the room; expel the breath as the arms are dropped and come down upon the heels at the same moment. Repeat eight to ten times.

Follow this with deep breathing, then go through the "walking-beam," or "liver-squeezer," movement with Indian clubs (Read the Chapter on Physical Culture for fuller directions, and see illustrations of some of these movements). This is excellent not only for pulling the flesh off the hips but also off the shoulder-blades. Let the head movement come next; hold it erect and twist it as far as possible to the left; back to normal position; then to the right; normal; to the left; repeat ten times.

Arms extended at sides, holding Indian clubs ; circle them in the shoulder sockets, swinging forward, upward, and backward, each arm alternately ten times; reverse the motion, and repeat. This will pull off superfluous tissue on shoulders and bust, and restore firmness to the latter.

The leg-raising exercises, stretched prone upon the floor, with arms extended above the head and grasping some fixed object, as a bed leg, should alternate with raising the body to a sitting posture without assistance from the arms or hands, which must be extended close by the sides, hands on the thighs. If the toes can be thrust under some fixed object all the better. When the legs can be raised perpendicularly, twenty times in succession, the superfluous flesh

longer one can walk, and obesity will lose all its terrors for a woman who has learned how to enjoy a daily five-mile walk.

In some of the Swedish-movement courses of treatment for reduction, bicycle-pedaling is the exercise commended for pulling the flesh off the hips. A five-mile stint, executed on a fixed wheel, in one's room, with open windows, is the prescription; and it is followed by exercises with pulleys fastened to the wall. There are various movements with these, influencing the whole body according to special requirements, but those for reducing the bust are simple: stand with your back to the pulley and, grasping the handles, let the weights pull your arms out and back as far as they will go; then pull them down over your head, and strike out as if delivering a blow. It is claimed that three weeks of this exercise will reduce the bust to half its size and expand the chest two inches.

If all this seems a formidable ordeal to the woman whom obesity has claimed as its prey, remember that when adipose tissue is made so fast it is at the expense of brain, muscle, and bone, which wait vainly for nutrition, and grow constantly weaker while the cormorant fat accumulates. The more promptly the disease is arrested the quicker the cure. Recognize the evil for what it is; as something which if not combated must daily become a greater menace to healthful activity and enjoyment, and believe that nothing else in life is quite so well worth having as perfect health.

In the bicycle both the fleshy woman and her thin sister have an invaluable aid to health, if its use is not abused. On this subject I have no reason to change the opinion expressed three years ago; hence, cannot do better than quote it here: "This wonderful health-giving exercise has taken woman out of herself, broadened her opinions and experiences at the same time that it was developing her chest and lungs and muscles, and brought into her life a new element, —one which is a constant source of fresh interests and

enjoyments, bringing her into closer relations and sympathy with her fellow creatures, both men and women, diverting her tired or perplexed brain, and giving her in largest, most generous measure, that best of all tonics, fresh air. Under these beneficent influences, what wonder that she finds her horizon of interest growing larger every day, and the steady gain in health and strength opening such possibilities to her wider vision that she feels herself recreated and borne on the wings of the wind, as it were, into a new world.

"The honest enjoyment of the blessed air and sunshine which it affords would in itself be sufficient recompense for learning to ride the wheel; but its benefits do not stop here, being so far-reaching as, in some cases, to utterly change the current of life and thought. It is impossible longer to consider cycling as a luxury; it has proved itself to be a democratic leveler of people and classes, at the same time that it has itself been raised from a mere sport to a vehicle of such utility, convenience, comfort, and enjoyment that it must be reckoned with as one of the most important factors in the civilization of the present decade."

It is an indisputable fact that no other exercise has ever done for women of all ages what the wonderful and fascinating "safety" has accomplished. That what should and can be so precious a boon is perverted into an evil none will attempt to deny. But man can point to no advantage which cannot be by some natures thus turned from the royal road. The twist is in the ill-balanced human microcosm which has never trained itself or been trained to control an impulse.

Wheeling is not an exercise which should take the place of all others, nor absorb all time to the exclusion of every other interest. The moment speed is made the end and aim, that moment its advantages are imperilled. And "stints" of distance are equally perilous. It is these things which produce the "bicycle face," the enlarged ankles and feet, and the broadened hands. But besides these disfigur-

ing effects, the physical powers are overtaxed, and the nervous strain or intensity of purpose, bent to one utterly insignificant goal, shuts out entirely all uplifting mental influences.

The well-poised, self-controlled woman, bent upon the symmetrical development of mind and body, will divide her bicycle exercise with that of walking or golfing, and will allow neither one to exclude the other. On one important phase of wheeling I must quote again: "The grave fears at first felt by many physicians as to the danger of the exercise for women who were suffering from organic weaknesses or displacements in the pelvic region have been most gratifyingly dissipated. Not only has no harm resulted, but, on the contrary, relaxed muscles have been strengthened to do the work they have long shirked, and many a chronic invalid who has had the courage to try the wheel as a last resort has ridden into such health and happiness as she had long since given up all hope of enjoying. One danger there is, but it is alike for men and women: because of the increased labor thrown upon the heart by the immense impetus given to the organs of circulation, those suffering from organic heart disease must, at least, ride with extreme caution, and, perhaps, cannot ride at all."

It is almost superfluous to add that the corpulent woman will derive one hundred per cent more benefit from doing her "five-mile stint" in the open air than on a fixed wheel in her own room or a gymnasium.

In swimming we have another exercise which is of equal advantage to the nervous, emaciated woman and to the obesity sufferer. This is proof of its great value as a stimulant to all the organs of the body in the normal performance of their functions. Doing this it takes off superfluous tissue, and encourages the development of weak muscles, while the deep regular breathing broadens and expands the chest and strengthens the lungs. Its influence upon mind and nerves, too, is admirable, as it promotes confi-

dence, poise, presence of mind, and courage. Of its importance to every man, woman, and child, aside from its value as an exercise, there can be no question, because thousands of lives are lost every year through ignorance of the art.

The bed of rose-petals is for the thin woman, and all we shall ask of her is to submit to being made comfortable. But even this will require some sacrifice on her part, for she must yield all her pet worries that have strewn her path with soul- and body-pricking thorns.

"Of the hard and weary loads
'Neath which we bend and fall,
The troubles that do not come
Are the heaviest ones of all."

The thin, angular woman is usually the nervous one and the overburdened Martha who "takes her washing and ironing to bed with her." The cause of her emaciation must be treated as well as the condition. Worry and hurry are American vices that seem ingrained in the fibre of our being; and they are not only a menace to health and consequently to beauty, but also mental and moral poisons, and a fatal handicap to all success and joy in life.

Epictetus says: "We all dread a bodily paralysis, and would make use of any contrivance to avoid it, but none of us is troubled about a paralysis of the soul." Now, the soul has no part in the rush and excitement of overwork and anxiety by which women court nervous prostration every day. It is in effect paralyzed and inert at such times, and will remain so till we look at life through its calm eyes and for the first time make acquaintance with our real selves. When we seek strength and serenity from our souls we shall always find it in ample measure, for its source is the very fountain of life and as unfailing as time.

Show me the woman who can prove to me that she has ever gained the smallest advantage or warded off any disas-

ter by worry! In the length and breadth of the land she is not to be found. But in every sanatorium and insane asylum in the whole world the victims of care, anxiety, worry, overwork, and hurry outnumber those from all other causes put together.

My poor, thin, nervous, overworked sister, take heart of grace, and turn your back bravely upon the old order of things. "Conditions cannot be your master when you know yourself. The buds of wondrous promise are within us all." Every evil is multiplied by brooding over it, and good can be increased in the same way. The first reform and betterment must come within yourself; then other blessings shall follow as the harvest does the seed-time.

The meagre woman who courts flesh to round her angles into curves of beauty needs fresh air and sunshine in unstinted measure, and must have them; she must eat a great deal of fruit of all kinds, and those denied the obese woman are her special friends. She must when possible take a glass of milk between meals in mid-morning and the afternoon, and again before going to bed. A wafer or two can be eaten with it, and it must be slowly sipped, not drunk quickly down. She can eat cereals freely and all the starchy and sweet vegetables, Irish and sweet potatoes, peas, corn, and beans, as well as all the green ones, and salads to promote digestion.

Bisque and cream soups encourage the laying on of fat, as also appetizing preparations of macaroni and spaghetti, and farinaceous puddings. Meats should be eaten according to appetite and taste, avoiding only those which are unwholesome for all. If the appetite be poor, it must be encouraged by variety, choice flavor, and dainty preparation; but if you have regard for your complexion you will use pickles sparingly, and shun piecrust, hot, *fresh* breads, hot cakes, and over-indulgence in sweets, lest they cloy the appetite for more substantial food, and set up fermentations which disturb digestion. All the directions concerning

adaptation of food to needs given in the chapter on diet should be heeded, because it is just as easy to eat for loveliness of complexion at the same time that you clothe harsh angles as to make the latter the sole object. The whole regimen should be one of beauty development. Any derangement of digestion must be corrected if possible by diet and exercise without recourse to medicine. Hot water should be drunk freely.

Warm or hot baths should be taken daily, and either a Turkish or a home vapor-bath once a week. Emollient and tonic baths are also excellent. Massage after the bath will aid in stimulating the skin, and the flesh can be fed directly through this means with nourishing oils and fats. An emollient of Dr. Pokitonoff's prescription is this:

MASSAGE FOR LA MAIGREUR.

Tannin	½ gramme
Lanoline	30 grammes
Oil of sweet almonds	20 grammes

Melt the lanoline and oil in a *bain-marie*, stirring till thoroughly mingled; as the mixture cools beat in the tannin.

Another excellent cream which feeds the skin and underlying tissues is the following:

BEAUTY CREAM.

Lanoline	5 ounces
Spermaceti	½ ounce
Mutton-tallow (freshly tried)	5 ounces
Cocoa-nut oil	4 ounces
Oil of sweet almonds	4 ounces
Tincture of benzoin	1 drachm
Extract of Portugal	4 ounces
Oil of néroli	20 drops

Mix according to previous directions for similar creams.

One more formula which Dr. Pokitonoff recommends is this:

EMOLLIENT CREAM FOR FLESH-MAKING.

Fresh lard	100 grammes
Alcohol 80%	20 grammes
Essence of rosemary	11 drops
Essence of bergamot	11 drops

When trying out the lard add a small bit of powdered gum camphor. Strain the lard, then beat in the alcohol; and just before the cream congeals stir in the essences.

Alcoholic lotions are also stimulating, and some constitutions will be benefited by a cold sponge, a spray, or even a quick plunge after the warm bath; but this has to be decided by experiment. Often the thin person has not the overplus of strength for the cold bath, so that even when the reaction is perfect, it is for her a wasteful expenditure.

An old and curious formula for promoting the firmness of the bust directs that two whole Portugal oranges be boiled for four hours in three hundred grammes of olive-oil. A *bain-marie*, or other double boiler, should be used. At night a piece of an orange is rubbed lightly over the breasts. If continued for a fortnight the result is said to be most satisfactory. Another French method of treatment is to rub the bosoms with this cream:

POMMADE RAFFERMISSANTE.

Oil of sweet almonds	200 grammes
White wax	100 grammes
Tincture of benzoin	50 grammes
Rose-water	50 grammes
Pulverized tannin	25 grammes

This differs but slightly from some formulæ for face creams (given in Chapter on The Care of the Complexion), which could be substituted for it. The inunction with the pomade, applied lightly and freely but not rubbed in, is followed by painting the breasts over with pure elastic collodion, which forms a sort of cuirass and supports the relaxed tissues. It is applied at night and is easily removed

in the morning. The treatment is pronounced excellent in results, and is also commended for flabby cheeks and any other parts of the body which have been unduly distended.

Dr. Vaucaire's treatment for disfiguring enlargement of the breasts, which is a greater inconvenience than too slight development, is the following: Rub the breasts every night with this pomade:

DR. VAUCAIRE'S ASTRINGENT.

Aristol.	2 grammes
White vaseline	30 grammes
Essence of peppermint	10 drops

Then cover them with compresses wet with this lotion:

Alum	2 grammes
Acetate of lead	30 grammes
Distilled water	400 grammes

Cover the compresses with oiled silk or other impermeable stuff and keep them on for twelve hours. The treatment must be continued for several months. Dr. Vaucaire commends also as excellent the following, to be applied like the foregoing:

IODINE POMADE.

Iodide of potassium	3 grammes
Vaseline	50 grammes
Lanoline.	50 grammes
Tincture of benzoin	20 drops

The slender woman's best hope for the development of her figure is in the nourishing aliment which will clothe the whole of her body in healthy, sound flesh; and in those exercises which expand the chest and strengthen the muscles of the bust. These are fully explained in the Chapter on Physical Culture. Very surprising results are also sometimes obtained from the application of static electricity, and it is even claimed that it is always successful unless the mammarial glands are atrophied. But for even this condi-

tion Dr. Vaucaire gives a good deal of encouragement. He very emphatically interdicts the external application of any balms or pastes whatsoever, and prescribes in addition to the usual regimen for the cure of *maigresse*, this potion

FOR ATROPHIED BREASTS.

Liquid extract of galega (goat's rue)	10 grammes
Lacto-phosphate of lime	10 grammes
Tincture of fennel	10 grammes
Simple syrup	400 grammes

The dose is two soupspoonfuls in water before every meal. The results are said to be very good. The drinking of malt extracts during meals is also advised.

A very old French book, one of those mysterious treasuries of curious cosmetic formulæ which prove to us how much time, thought, and study have through all the ages been devoted to the important subject of enhancing woman's beauty, contains this prescription (Unfortunately, the first and third ingredients are unfamiliar to American pharmacists):

RÉGIME FOR EMPONPOINT.

Salep of Persia	15 grammes
Powdered cocoa	60 grammes
Gland doux d'Asie	60 grammes
Potato starch	45 grammes
Rice starch	60 grammes
Sugar	250 grammes
Vanilla	5 centigrammes

Mix the ingredients and take two or three spoonfuls every morning in a glass of milk.

To encourage the appetite of nervous, thin women whose greatest difficulty sometimes is to eat sufficient food, Dr. Vaucaire prescribes this tonic:

AN APPETIZER.

Tincture of star-anise	3 grammes
Tincture of rhubarb	2 grammes
Tincture of nux-vomica	3 grammes

The dose is six to ten drops in a spoonful of water to be taken five minutes before every meal.

The caution must be given that very great harm can be done by using any of the patent nostrums advertised as mammarial balms, for which most extravagant virtues are claimed. And even more dangerous are the many mechanical appliances for increasing the fullness of the bust which may cause serious injury to these very delicate and important glands. It is running the gravest risk to apply any compound to the breasts in ignorance of the ingredients composing it.

Massage of these sensitive parts must be very carefully and discreetly employed, and the manipulations must be very gentle. It is most injurious to allow a young girl's bosoms to be handled at all. Nature provides this charm for all women, and it can be secured in the natural way. For her the effective remedy can always be found in proper exercise and tissue-building food. Although sometimes inunctions with almond, olive, or cocoa-nut oil prove beneficial, absolutely no effect need be expected from them unless the physical conditions are such that the whole body is gaining flesh, and the skin through baths and massage has been made to assimilate nourishment in this way. Valuable hints to promote this are given in the Chapter on Baths.

When the services of an expert masseuse cannot be had, the massage rollers will often be found very helpful in self-manipulation. They come in various shapes and sizes, and sometimes in sets for different parts of the face and body. But one roller of medium size, rather small, can do all the work. Remember that all movements on the face should be outward and upward from the mouth.

A French formula for promoting the volume and firmness of the bosom, which it is also claimed will prevent it from ever becoming flaccid, contains no injurious substances and I therefore give it here:

BALM OF VENUS.

Tincture of quillaya	3 drachms
Tincture of myrrh	3 drachms
Tincture of benzoin	3 drachms
Galega-water (infusion of goat's rue)	5 ounces
Rose-water	15 ounces
Almond-milk	2 ounces
Rectified alcohol	1 ounce
Essence of bergamot	1 drachm
Essence of néroli	1 drachm
Powdered alum	90 grains

Dissolve the alum in the galega-water; mingle the rose-water and almond-milk; then add slowly, under constant agitation, the tinctures; add the essences to the alcohol; and then put all together, shaking till thoroughly incorporated. Apply the emulsion at night, rubbing it gently in with a clasping firm pressure of the fingers and palms.

Before the thin woman can begin to put on flesh her nerves have to be coaxed, and a very fragrant water whose odors have a tonic effect upon them is this:

EAU ROMAIN.

Jasmine-water	6 ounces
Vanilla-water (can be made from extract)	3 ounces
Acacia-water (can be made from extract of cassie)	3 ounces
Tuberose-water (can be made from extract)	½ ounce
Essence of ambergris	10 drops
Tincture of benzoin	1 drachm

Put all but the tincture together, and shake till thoroughly mingled; then add the tincture drop by drop, with constant agitation. A few drops in a basin of water is delightfully refreshing, and imparts just the delicate fragrance which is agreeable.

Rest is quite as important for the thin woman as her baths and food, and this will perhaps be the hardest lesson she has to learn. She is usually a busy woman, either voluntarily or from necessity,—one whose days, and nights as well, are crammed with duties and engagements which

crowd upon each other's heels. The greater part of these, perhaps all, she will have to relinquish. Ten hours' sleep at night is none too much, and it must be in a bed alone, and in a quiet room. If she feels like lying late in the morning she must do it, and be roused only to take a cup of hot chocolate with some toast or gluten bread and fruit.

If there is no chronic indigestion that prevents the assimilation of food, she may gain all the flesh she desires by drinking chocolate freely and eating preserved figs, and taking both milk and water hot. A mid-day nap after luncheon is indispensable, and any interruption of this by the household must be made a misdemeanor. The patient must, too, if unable to give up all occupations, accustom herself to take little five-minute rests at frequent intervals.

There is a wonderfully recuperative effect in just the shutting of the eyes and relaxing all tension for a few moments, banishing thought as well. "Repose is the subjugating of the impulses to the will." When the habit of doing this is acquired it will be found a balm to the nerves and a great boon; enabling one to accomplish more work with less strain than in the customary rushing fashion, when we make our wills supply the place of strength, and then pride ourselves on this iniquitous form of self-abuse.

The beginning of treatment with the thin woman must be to rest and to live in the open air as much as possible. Her diet, exercise, and baths must be regulated by her physical condition; and at first, the changes in the former should be but slight. The cautions heretofore given about warmth apply especially to her. Cold is her bitter foe, and in winter she must wear warm underwear, and live in warm, sunny rooms that can be flooded with fresh air.

Although thinness does not compare with obesity as a beauty-destroyer, nor put its victim out of commission, as it were, as a useful member of society, both these abnormal conditions originate from errors in the habits of eating, and therefore I commend to both these classes of sufferers

this thought: "When we have mastered the secret of eating we will all reach a higher development. . . . The time is not far distant when we will no more take food indiscriminately than we take poisonous drugs."

> "Who seeks, and will not take when once 'tis offer'd,
> Shall never find it more."

CHAPTER XIII.

THE CHOICE OF PERFUMES AND THEIR PREPARATION.

"Sometimes I choose the lily, without stain;
The royal rose sometimes the best I call;
Then the low daisy, dancing with the rain,
Doth seem to me the finest flower of all;
And yet if only one could bloom for me—
I know right well what flower that one would be!"

COINCIDENT with the chronicle of man's loves and hates the influence of sweet odors can be traced. Though their use has always increased and spread with high states of civilization, it has not been restricted to it; for even wandering tribes of savages have recognized the power of attraction contained in fragrant scents by anointing their bodies with perfumed oils; and Pliny tells us of one tribe whose entire diet was composed of sweet-scented substances. Not so pleasant, however, is his suggestion that the Persians used perfumes to overcome the personal odors from unclean bodies. This was probably hearsay, and arose from some temporary custom—what we should call now a "fad"—of substituting anointment with perfumed oil for their habitual ablutions, frequent reference to which can be found in all their holy writings.

The senses of man, even in their crudest, untutored state, have always been recognized as, to a certain degree, in thraldom to the delicious perfume of flowers, spices, precious resins, or gums, and aromatic plants. And, consequently,

with the most primitive people, the first step upward, rousing the desire to please, led to the use of all attainable perfumes that could enhance personal attraction.

The anointing of the body with a sweet-scented pomade or ointment seems to have been a very early custom, and was probably a part of the very first toilet that man- or woman-kind enjoyed; and we find the reason for this in the subtle appeal to the imagination which all perfumes make. That it is one of the gifts of Nature intended for our pleasure is evident from the lavish hand with which they have been spread abroad over the whole surface of the earth.

The first perfumes known to man were those of the flowers, to which he was first attracted by the beauty appealing to his eye; but before his ingenuity was capable of extracting and preserving their fragrant odors, the more pungent and lasting scents of spices and resins and dried herbs attracted him and satisfied his need while cultivating his taste. It is easy to believe that to the aborigine, whose sense of smell was so much keener than ours and whose pleasures were so few, certain sweet odors may have afforded an intoxicating delight, opening to him the gates of his Paradise. The instinct implanted in man of deriving pleasure through the most refined gratification of the senses was the impulse, directing his upward gropings and strivings, to which we owe all the development of the creative arts; and in this, our day and generation, through the vast strides made in the science of chemistry, the manufacture of perfumes has expanded into the dignity of an art.

The very structure of the word, per—signifying "*through*" —and fumum—smoke, proves to us its early connection with incense and fumigation; and indicates that the first suggestion of man's ingenuity for the use of aromatic resins, barks, and roots was to burn them; and that very early they were associated with his purest and highest emotions, is recognized by the important part they were given in the most ancient forms of worship.

To account for this, science has come to our assistance. The microscope discloses, in the very core of the brain, a small mineral deposit consisting of grape-like masses of crystalline matter; and it was in this centre of the cerebrum that Galen, first, and afterwards Des Cartes placed the soul. Now, the olfactory nerve is so intimately connected with the hemispheres of the brain that Dr. Holmes said it "is not a nerve at all, but a part of the brain, in intimate connection with its anterior lobes." And this close affiliation with man's organ of thought may account for the power it exercises over his emotions, and also for the fact that familiar odors stimulate memory more than sensations of taste or touch. They seem to convey to that crystalline core the ability to reflect the vivid images of things long unseen as if we looked into a mirror.

All history is filled with proofs of the overpowering influence exercised upon man by perfumes; and their use and disuse have marked the rise and fall of nations. During all the centuries of Egypt's splendor and luxury, perfumes occupied a more important part in the economy of life than they have ever done since, unless in the period of Rome's greatest power. In Egyptian mural remains the incense-burner and the incense-bearer were frequent subjects for the artist's brush; and among the hosts of household utensils, furnishings, and ornaments which their great tombs have preserved to our day, and which form pages of history for us, the number, variety, and form of smelling-bottles, vases for precious ointments, and incense-burners is practically countless.

All the precious spices and perfumes used in Egypt were brought by caravan over the desert from Persia, the trade being very important and valuable, because of the enormous quantities consumed as well as their intrinsic value. The Egyptians spent vast sums of money for the aromatic resins and spices used in embalming their dead; and so lasting are some of these odors, that when a mummy has been ex-

cavated, be it after two or nearly four thousand years, their perfume has been distinctly recognizable.

And, as in death so in life, these people surrounded themselves with flowers and perfumed their garments and apartments, lapping themselves in sweet odors. Even the sails of Cleopatra's barge were fragrant as it

> "Burn'd on the water;—the poop was beaten gold;
> Purple the sails, and so perfumèd, that
> The winds were love-sick with them."

The Jews early acquired from the Egyptians habits of great luxury, and with a love for showy dress and jewels united a fondness for perfumes and cosmetics. They paid extreme attention to the care of the person; and soon after Moses' time, if not before, we find the barber, hairdresser, and perfumer plying their callings as busily as in the present age. The love of perfume seems to have been inherent in all the Oriental peoples, and is always inseparable from their higher and religious life; and we find it inwoven with all the habits of life of those ancient Asiatic races, the stories of whose advanced civilization more than two thousand years before Christ read like fairy tales. In Ninevah and Babylon, besides the perfumes produced from those garden-lands, a thousand talents' worth of frankincense were annually imported, and the costliest scents were universally used. Cosmetic arts were known, and baths were of effeminate luxury. After being anointed with fragrant oil, the whole body was rubbed down with pumice-stone; rouge and paint followed; the eyes were darkened with *stibium* (antimony), and the hair of men, even, was elaborately curled and braided.

The taste of the Greeks in perfumes indicates a high degree of culture. They enjoyed a great variety of fragrant substances, and employed perfumed oils of the same sort in use now. The dainty violet was in special favor with them, and their poetic fancy wove about it a mystic legend

AN ORIENTAL BEAUTY.

as dainty as its subtle fragrance. Ianthe, a favorite nymph of Artemis, was loved by the fickle god Apollo, and the goddess to protect her handmaiden dyed her blue. Ianthe preferred the perils of beauty to the blight of ugliness, under the infliction of which she was pining away, when Artemis relented and changed her to a violet.

In Solon's time the *jeunesse doré* carried the use of perfumed oils to such a point of extravagance that he promulgated a sumptuary law forbidding their sale to Athenian men. The beauty of Helen of Troy was attributed to their use, and so highly esteemed were certain essences and cosmetics that their formulæ were inscribed on marble tablets in the temples. Medicinal virtues were attributed to many, and the rose especially was believed to possess qualities as therapeutic as beguiling, and it formed the basis of many remedies.

Athens' final relief from the plague is attributed to the skill of Hippocrates, who purified the air by fumigating it with aromatic gums and herbs; and during the plague in England perfumes were extensively used as preventives. In Queen Elizabeth's time, a little ball of perfumed paste —the pomander—was worn about the neck as a preventive to contagion, and exquisite bits of jewelry were devised to contain them. It has been noticed that workers in perfumery laboratories are exempt from disease during the prevalence of cholera epidemics, and hospital nurses in European countries escape contagion by carrying musk about them. After the Dutch protected their monopoly of the spice trade in the Molucas by destroying clove-trees on the island of Ternate the natives suffered from epidemics never before known there.

Healing lotions and ointments were made by Hippocrates, Galen, and others, of honey, myrrh, turpentine resin boiled in sweet wine, and unripe grapes; and of ox-gall, finest honey, white wine in which shavings of the lote-tree —*Celtis australis*—have been boiled, together with equal

Kashmir, where 2,000,000 pounds are collected annually, and every "Kut" field is assessed a fixed amount. The tax-collector buys the product of the villagers at a certain low rate, and makes a pretty penny on the transaction. The dried root is used for fumigating, and large quantities are exported to China where it is much used as an incense.

The therapeutic value of cinnamon is being recognized with disastrous delay, for its mere scent has power to destroy many infectious microbes. Its essence when exposed in the sick-room will kill typhoid *bacilli* in twelve hours, and prevent fresh cases. Persons who have been exposed to contagion from any infectious fevers or to cholera, or who live in localities where malarial fevers are prevalent should drink freely of a decoction of cinnamon, and may also chew the stick cinnamon and keep bits of it about them. These valuable properties of the spice have been recognized in England for some years past, and, in consequence, Queen Victoria makes a rule of taking it in some form daily.

Two factors have coöperated to advance the art of perfumery very greatly in recent years: the extension of trade to hitherto almost inaccessible or unknown countries has brought to our knowledge new and valuable aromatic substances, and the science of chemistry has developed new methods of extraction, combination, and preparation. With the increase of wealth and refinement, also, the consumption of perfumes has grown enormously; and the cultivation of the products needed has become a valuable industry, in different parts of the world. It is a curious fact that flowers grown in warm countries yield the strongest odors, while those of colder climates are generally sweeter.

The flower gardens of the South of Europe, and more especially of France, furnish by far the largest part of the raw-material for the perfumery industry, and thousands of people are employed in the fragrant fields. Slight differences of temperature and soil affect powerfully the character of floral odors, and thus it is that certain places are famed

for certain perfumes. At Cannes the rose, cassie, jasmine, and tuberose are cultivated successfully; Nismes furnishes lavender and rosemary; Nice is celebrated for its violets and mignonette, which nowhere else attain quite the same subtle delicacy; while Sicily and Italy furnish the finest citric odors,—bergamot, cedrat, lemon, néroli, petit-grain, orange, and limette.

The moist climate of England favors the most successful culture of lavender, peppermint, and rosemary, the oils of which are so fine in quality as to command the highest prices. The best lavender is raised at Mitcham. This floral culture for the perfumery trade should be a large industry in the United States, as there are vast sections of the country where it could be most profitable, but it is still in its infancy here. In Michigan and some parts of New York State peppermint is grown on quite a large scale, and continual experiments are being made to improve the quality and output.

The extensive use of perfumes and the art of their preparation never died out in the Orient, and it has always been from its cradle there that the custom of their use has returned from time to time, in waves as it were, to the countries of the Occident. The Arabians, fathers of chemistry, were the first to apply its principles to develop the art of perfumery. The important process of distillation was discovered by the Arabian physician Avicenna, in the tenth century. He invented rose-water, considered a great discovery, and it was used largely in medicine as well as for perfume and cosmetics; the preparation of other fragrant waters from leaves, flowers, and herbs, followed. Sultan Saladin celebrated his triumphal entry into Constantinople, in 1157, by having the walls of the Mosque of Omar washed with rose-water.

Mahomet was extravagantly fond of perfumes, and the enchanting houris, with whom he peopled the paradise promised the faithful, are described in the Koran as having

bodies of purest musk. So fond was Mahomet of this strong odor that tradition avers it was mixed in the mortar with which the walls of a certain mosque were laid, and when the sun shone the perfume exhaled from the sacred structure.

The choicest and rarest of perfumes, otto of roses, comes to us from India and Turkey; but, alas! so precious is this fragrant oil and so highly esteemed in the countries where it is made that it is very rare a single drop of the unadulterated oil reaches the marts of the Occident. There is a vast acreage in Bulgaria given up to the culture of the Red Damask rose, and there are extensive rose-farms also at Uslak, Turkey-in-Asia, and at Ghazipoor, India. The otto is extracted by distillation of the rose-petals in copper vessels, the operation being repeated with fresh flowers a number of times, collecting the distillate in cool receivers. Five hundred pounds of petals yield only about one ounce of otto. In Bulgaria the flower-buds are gathered before sunrise, to insure delicacy and sweetness. If gathered later in the day when the buds have opened, the perfume would be stronger but not so sweet. A resinous substance which accumulates on the pickers' fingers is carefully scraped off, rolled into balls, and used for mixing with tobacco in cigarettes.

The word *atar*, or attar, often used interchangeably with otto, comes from India, where it has the same meaning as *abir*, signifying mixed perfumes. Thus, *Abir* of Bombay is composed of santal, violets, orange-flower, rose-water, musk, and spikenard. The adulteration of this precious oil has led to an attempt in Germany to produce it, and extensive rose-gardens have been established in the vicinity of Leipsig for that purpose. It is already on the market, in small quantities, and its purity is guaranteed.

Curious phenomena in connection with the odors of plants are that different parts yield it,—as the bark, leaf, or blossom,—and that some plants yield more than one

odor, all distinct. The orange-tree furnishes the perfumer with three most valuable products; from the leaves petit-grain is extracted; from the flowers, the favorite néroli; and from the rind of the fruit, the essential oil called respectively Portugal or Bigarade, according as it is expressed from the sweet or the bitter orange.

Even more curious is the fact that totally dissimilar odors are germinated in the same plant or flower. There is a South American white lily—*Tritelia uniflora*—which has the delicate odor of violets, but when bruised gives forth a strong smell of garlic. An obscure relation must exist between these two odors, for Cassie flowers—*Acacia Farnesiana*—also resemble the violet in fragrance, but, if eaten, impart to the breath a repulsively strong odor of garlic, entirely imperceptible to the person eating them. In Central Australia there is a tree bearing the unpleasant name of the stinking acacia because of the offensive smell of its blossoms; but its wood has the fragrance of raspberry jam, and bears that name in the markets. The leaves of the tree have no perceptible smell when fresh, but forty-eight hours after being picked have the obnoxious effluvia of rotting cabbage.

The fragrance of plants is extracted by the different processes of distillation by water, expression, and absorption or maceration in oily substances; the three last are generally used for flowers, and the first for barks, plants, and woods. In distilling, the herbs or flowers are usually placed in a wire basket which is suspended in the still, allowing the steam to permeate the fragrant mass and carry its volatile principle with it to the condenser, where on cooling the oily molecules are deposited. The same water is distilled several times with fresh plants or flowers, and retaining some of the volatile perfume is itself, in the case of certain flowers, of value.

The valuable essential oils contained in the fruit-rinds of the citron family are obtained by expression, the primitive

operation being to grate them and collect the product with a sponge; but machinery has improved upon this. The process of maceration, or infusion, is used for flowers of strong odor such as cassie, rose, violet, and orange-flower, and for musk, civet, and aromatic resins. A certain quantity of the prepared fat,—lard, beef-suet, veal-fat, beef-marrow, or mutton-suet, carefully rendered, and as pure as possible—is put in a pan which is set in a salt-water bath that is brought to a boil; when the fat is liquefied, the flowers, picked from their stems and torn apart, are dropped in and digested for an hour or two at a gentle heat. The pan is then set aside for twenty-four hours, after which the flowers are taken out and drained through a horsehair bag; fresh flowers take their place, and the process is repeated till the oil is fragrant. The unctuous, resinous substances are rubbed to a smooth paste with a little oil, and sometimes mixed with more than their weight of fine sand or powdered glass to assist their reduction, before they are put in the hot fat.

The native perfumers of India prepare their scented oils of bela, chumbal, jasmine, etc., by the following primitive method of absorption, the *enfleurage* of the French: A layer of the sweet-scented flowers four inches thick and about two or three feet square is spread on the ground or on a stone slab, and over it are strewn moistened *telor*, or sesamum, seeds to a depth of two inches; on top of the seeds comes another four-inch layer of flowers. A dampened sheet is then spread over the whole and pressed closely at the edges by weights. After twenty-four hours the flowers are replaced by fresh ones, and the process is repeated a third or, perhaps, a fourth time. The swollen sesamum seeds, sweet with the flower-odor, are then put under a press, and their bland, fragrant oil is sealed in large *dubbers* (carboys) of untanned hide. Poppy-seeds have been employed successfully in this country in a similar manner.

Enfleurage is employed in France for all the delicate odors

which will not bear heat. Squares of glass framed in wood are prepared and covered with grease in a thin layer upon which the fresh flowers are strewn; the frames are then piled one upon another and closely covered to exclude air and insects. The flowers are renewed every twenty-four hours till the grease is sufficiently impregnated with their fragrance, when it is scraped from the glass, melted by gentle heat, and strained.

The French are skillful in the cultivation of the flowers, in the extraction of their odors, and in all their manipulation; and they have developed a critical taste in the subtle combination of different odors which together with the purity of their products has won them deserved recognition as past masters in the art of perfumery. Their zeal in the art has even extended to the invention of methods by which they impart fragrance to odorless blossoms, and if the scientists do not weary of their fascinating study they may succeed in training the rank-smelling marigold to rival the fragrant lily.

This process of teaching a flower the way it should grow —already partially successful—begins by soaking the seeds for two days in rose-water with just a trace of musk; after this the seeds are partially dried, and sown. The first growth of flowers from seed so treated shows a marked improvement, and it is believed that the third and fourth generations will not know their ancestors. Among these experiments it has been found that to water plants constantly with a weak solution of musk will impart that odor to their flowers; and that trees can be perfumed by injecting concentrated essences into their trunks before the sap begins to rise.

In nothing has Dame Fashion shown more arbitrary eccentricity and inconsistency than in her decrees anent the use of perfumes; at one time giving great vogue to the most pronounced and strongest scents; and anon, as if to make amends, banishing every hint of essence or even fragrant water from the *grande dame's toilette*; stamping

their use as vulgar, and exposing the frail sister who indulged a fondness for them to the grave reproach of concealing uncleanliness thereby,—all of which takes us with one leap back across the intervening centuries to those heedless Persians who furnished material for Pliny's eloquent pen. After all, the world is a very small place, and history repeateth itself full oft.

Out of all these freaks and fancies we have formulated some dainty rules, which, though unwritten, exercise a determining influence upon our use and choice of perfumes. All strong, overpowering odors are tabood by good form, and no further reason should be needed for this than that founded on courtesy, which forbids us to offend our neighbor. Some people are made violently ill by inhaling certain pungent or so-called heavily sweet scents.

Animal perfumes like ambergris, civet, and musk are too rank by themselves to be even the least agreeable to many people, and to most people they are extremely offensive. Their value consists in the property they possess of fixing, or developing and making more permanent, many of the subtle vegetable odors when they are mingled with them as a base. An infinitesimal quantity only is needed for this, and it should not be perceptible to the daintiest sense of smell. Chinese or Tonquin musk is the most valuable, and it is taken by the Chinese hunters from the musk deer, a small creature inhabiting the highest of the Himalayas. The hunters and musk merchants display the most amazing ingenuity in adulterating it, and even imitate the sack itself with a bit of skin which they fill with dried blood, earth, and the merest fragment of the genuine musk.

Just as there is a harmony of color, form, and sound, so is there a harmony of odors; and it is possible to cultivate the olfactory nerve to a keen and sensitive appreciation of this harmony. The famous Parisian perfumer, Piesse, believed it possible to arrange different odors in a harmonic scale, and in combining them he studied to produce perfect

chords as the musician does with tones. Thus it will be seen that the tyro should not with bold but ignorant hand toss several perfumes together to make a handkerchief bouquet. That he does it, we have frequent proof whenever we walk abroad, or find ourselves in a mixed crowd. The cheap, crude extracts are thus compounded of adulterated substances, and in ignorance of the chemical action and reaction of different odors upon one another, and their use is always an abomination.

Only the experienced chemist is competent to compound choice perfumes, as certain principles kill each other, while others sustain, develop, and mingle together. Thus, vanilla, almond, clematis, and heliotrope blend exquisitely, making a harmonious major chord; while néroli, lemon, and verbena mingle as harmoniously, but upon a higher key.

The fastidious woman should—and generally *does*—ascertain what odor is to her the sweetest and best of all, and then fix her affections firmly upon it. She should individualize it by using it among all her belongings; and by all means avoid the disagreeable effect of running through the whole gamut of odors, with rose perfume in her glove-box, orange-flowers with her veils, and violet in her gown.

Violet is, preëminently, the favorite perfume of the day. It has received the *cachet* of the social world, and is the personal fragrance of many distinguished women; yet it possesses such exquisite qualities that even in becoming so general a choice, it by no means loses its distinction. The essential oil of violets is so difficult to extract that the genuine perfume is among the most expensive odors; and most of the so-called violet perfumes are generally mixtures of other fine odors which blend with and should bring out the true violet fragrance, while the cheaper sorts are made of orris-root. The pure violet oil has a strong narcotic odor bearing no resemblance to the flower scent, which returns only when it is greatly diluted. There is no reason wh

est aroma only when extracted in pure spirit of wine; but all the violet family and musk, ambergris, and their fellows, are congenial to the grain alcohols. When impossible to obtain pure wine or brandy spirit, it is best simulated by adding one drachm of acetic acid to a quart of alcohol, which overcomes, or "corrects," as the chemists say, the odor of the fusel oil left from corn, giving it the effect of brandy spirit.

A most agreeable violet water for the toilet and for vaporizing one's apartment contains the following harmony of sweet odors:

EAU DE VIOLETTE DE PARMA.

Extract of violet	5½ drachms
Extract of cassie	5½ drachms
Tincture of orris-root	11 drachms
Tincture of civet	2½ drachms
Oil of bitter almonds	10 drops
Oil of rhodium	20 drops
Alcohol 95%	1 pint
Rose-water, triple	13 drachms

The triple extracts of the French are made by digesting pure rectified spirit on half its weight of fragrant oil. It is left to stand for several days, being frequently agitated in the interval; then the perfumed spirit is carefully decanted and poured over a fresh supply of the oil or pomade. The operation is repeated a third time, and the result is the triple extract. The portions of oil are treated to a second and even a fourth bath of alcohol, which are numbered accordingly, and are at last themselves used in hair pomades.

It is a pretty fancy, especially for young girls, to select an odor which harmonizes or corresponds with their most becoming or favorite color; and when opportunity or means admit, the idea is carried even to the furnishing of the girl's own room. Carnation, rose, lily, violet, lavender, mignonette, and néroli lend themselves charmingly to this individuality. All the orange and citron odors belong to the

girl who adores yellow and never looks better than when she makes a golden shimmer of herself in the glowing color. That her room should be done in chrysanthemum-flowered cretonne, silkoline, or India silks, follows as a matter of course in the harmony of things. That a girl whose presence and little personal belongings are always recognized by the faintest preceptible fragrance of the clove-pink or carnation should be found in her *sanctum* in a setting of delicate pink or rose-color seems as natural as that water should run down hill.

For her especial benefit I give the following formula for compounding what is called by courtesy extract of clove-pink, and is so close an imitation of that spicy aroma that experts cannot detect the fraud. The odor of the real flower can be easily extracted with petroleum ether, but the substitutes are so natural that the genuine oil and extract are not offered for sale.

EXTRACT OF CLOVE-PINK.

Extract of rose	5	ounces
Extract of cassie	5	ounces
Extract of jasmine	4	ounces
Tincture of orris-root	10	drachms
Tincture of vanilla	10	drachms
Tincture of ambrette	20	drachms
Oil of cinnamon (pure)	15	drops
Oil of cloves	30	drops
Oil of petit-grain	15	drops
Orange-flower water, triple	2½	ounces
Alcohol	2½	ounces

PURE EXTRACT OF PINK.

Oil of pink	1 ounce
Rectified spirit	1 pint

Mix, and agitate together till thoroughly united. A good and simple imitation of the pure extract, sold under many fanciful names, follows:

EXTRAIT D'ŒILLETS.

Cinnamon (bruised)	1½ ounces
Cloves	¾ ounce
Rectified spirit	1 pint

Let it stand in a warm place—preferably in the dark unless contained in an opaque receptacle—for a week to digest, being frequently agitated.

EXTRACT OF HELIOTROPE.

Extract of rose	1 pint
Extract of néroli	6 ounces
Tincture of vanilla	1 quart
Tincture of ambergris	14 drachms
Oil of bitter almonds	15 drops

The above is a very lasting odor and commended for use in wardrobes, closets, and bureau-drawers.

The powerful effect of one odor acting upon another is illustrated in the delightful scent known as "Rondeletia," which owes its peculiar fascination to the aroma of cloves combined with oil of lavender:

RONDELETIA ODORATISSIMA.

Tincture of ambergris	17 drachms
Tincture of vanilla	17 drachms
Tincture of musk	17 drachms
Oil of lavender (Mitcham)	9 drachms
Oil of cloves	5 drachms
Oil of bergamot	4 drachms
Oil of rose	40 drops
Alcohol	2 quarts

EXTRACT OF MIGNONETTE.

Extract of mignonette	½ pint
Extract of cassie	2½ ounces
Tincture of orris-root	2½ ounces
Tincture of Tonquin	1 ounce
Tincture of benzoin	1¼ ounces
Rose-water, triple	2 ounces

EXTRACT OF FRANGIPANI.

Extract of néroli	1 drachm
Essence royale	3 drachms
Oil of lavender	5 drops
Oil of cloves	5 drops
Oil of rhodium	5 drops
Civet (powdered)	10 grains
Rectified spirits	4 ounces

Digest a week as directed above for the *extrait d'œillet.* This formerly very popular perfume has preserved from the time of the Crusades the name of a Roman family, a member of which invented a sweet-scented powder which was named after him. His grandson Mauritius Frangipani made the further discovery that by treating the powder with spirit of wine he could produce a fluid extract. Another formula for it is this:

EXTRACT OF FRANGIPANI, NO. 2.

Triple extract of néroli	10	ounces
Double extract of rose	5	ounces
Tincture of orris-root	2½	ounces
Tincture of vetivert	10	drachms
Tincture of musk	10	drachms
Oil of santal	15	drops
Oil of néroli	15	drops
Oil of rose	7	drops
Rose-water, triple	1	ounce

EXTRACT OF SWEET CLOVER.

Triple extract of rose	10	ounces
Double extract of cassie	10	ounces
Tincture of musk	1	ounce
Tincture of orris-root	5	ounces
Tincture of ambrette	5	ounces
Tincture of Tonquin	2½	ounces
Oil of petit-grain	2	drachms
Oil of bergamot	4	drachms
Oil of cloves	1	drachm
Rose-water, triple	5	ounces

EXTRACT OF TEA-ROSE.

Extract of rose, triple	15 ounces
Tincture of musk	10 drachms
Tincture of ambergris	10 drachms
Oil of néroli	15 drops
Oil of rhodium	30 drops
Rose-water, triple	2 ounces

Oil of rhodium is extracted from rose-wood, and was formerly used to adulterate otto of roses. It gives a very agreeable odor to the above bouquet, and it is always valuable in sachet powders.

EXTRACT OF EGLANTINE.

Extract of rose (from pomade)	1 pint
Extract of orange-flower	9 ounces
Extract of cassie	9 ounces
Essence of rose, triple	9 ounces
Oil of lemon-grass	21 drops
Oil of néroli	21 drops

EXTRACT OF DAMASK-ROSE.

Triple extract of rose	½ pint
Double extract of rose	½ pint
Double extract of tuberose	5 ounces
Tincture of orris-root	5 ounces
Tincture of civet	2½ ounces
Oil of rhodium	2½ ounces
Orange-flower water	6 ounces

The never-failing delight of a rose or *pot-pourri* jar is known only to its fortunate possessor ; yet it is easy to prepare one, and, once prepared, so easy to keep at the point of perfection, that the wonder is they are not more frequently enjoyed. The rose-petals should be gathered in the early morning, and tossed lightly on a table in a cool, airy place, to lie till the dew has dried off; then put them in a large stone jar, sprinkling a little salt over half-inch layers of the petals. This can be added to from morning to morn-

ing till enough roses for your purpose have been gathered; let them stand in the jar for ten days after the last are put in, stirring the whole every morning. Have an ounce each of cloves and allspice, coarsely ground, and as much stick cinnamon, broken and shredded fine with the fingers; transfer the rose-petals to another jar, and scatter the spices, mixed together, in layers alternately with the flowers. Cover the jar tightly and let it stand in a dark place for three weeks, when the stock will be ready for the permanent jar. This may be as handsome and sumptuous as you can afford, but nothing except costly cloisonné or rare hawthorne-ware is more beautiful than a simple blue-and-white Owari jar. Whatever it is it should be provided with a double cover.

Have ready a quarter of an ounce each of mace, allspice, and cloves, all coarsely ground,—or pounded in a mortar,—half of a grated nutmeg, half an ounce of cinnamon, broken fine, one ounce of powdered orris-root, and a quarter of a pound of dried lavender-flowers. Mix all together in a bowl, and proceed to fill the rose-jar with alternate layers of the "stock" and the mixture. A few drops each of several essential oils—rose, geranium, néroli, and bitter almond are good—should be dropped upon the layers as you progress, and over the whole pour an ounce of fine Cologne or rose extract. This is sufficient to fill two quart jars or one very large one, and it will keep for years. From time to time, various sweet things may be added to it, as a few tuberoses or a spray of heliotrope or a few leaves of the lemon *citradora*. If the jar be left open for a half-hour every day, it will fill your rooms with a delicate, indefinable, spicy fragrance, very refreshing and delightful, and unlike any other perfume. The aromas of the different spices are so mingled and blended that all are modified, and the fragrance suggests all manner of bewitching, subtle, volatile spirits, without a suspicion of anything the most fastidious could call rank.

That old-time favorite the sweet pea, which disputes

popular favor with the violet, is another flower which should be grown for the perfume with great success in our country. Its extraction is confined almost exclusively to Southern France, where the process of infusion is used, but it is rarely offered for sale. The bouquet receiving its name is the following compound:

EXTRAIT DE POIS DE SENTEUR.

Extract of orange-flower (pomade)...	10 ounces
Extract of rose (pomade).....	10 ounces
Extract of tuberose (pomade).....	10 ounces
Tincture of vanilla.....	9 drachms

The delightful fragrance of orange-flowers is subject to great adulteration or imitation, the common substitute being extract or essence of syringa; but a better one, it is averred, could be furnished the perfumer from the white lupin, vast acreages of which perfume the air of Southern California and furnish the sweets which the busy bee transforms into so-called orange-flower honey. The best orange-flower extract is made from the pomade in the proportion of a half-pound to 17 ounces of brandy spirit. The oil of *néroli pétale*, the extract of which calls for four drachms to a quart of brandy spirit, is not to be compared to the former in delicacy.

The Parisian perfumer Lentheric has invented a *bâton aromatique* for perfuming apartments which is greatly esteemed for the delicate but penetrating scent of vanilla which pervades the air as it smoulders away. The batons are flexible sticks resembling yellow whalebone, and twisted into a true-lover's-knot, one end of which is lighted. Vanilla is a gentle stimulant which is absolutely harmless and is agreeable to most people. As a flavor in food it has a tonic value, and is especially beneficial to delicate women. In some European countries a *petit morceau* of it is infused with tea; but in England a daintier fashion has been devised of having the flavoring extract incorporated in the clay of

which the china is made. When the tea service is heated a faint aroma of the sweet perfume is exhaled from teapot and cups.

Fumigating pastils are made of powdered charcoal and aromatic substances, beaten up with some binding mucilage, unless there is sufficient resin in the compound to perform this office, and with a little nitre or saltpetre to delay their combustion. They are usually moulded in small cones. All the dry ingredients must be finely powdered, then the oils, if any, added, and lastly the whole reduced to a stiff, ductile mass with whatever liquid the formula calls for. Linden, alder, or willow charcoal makes the best pastils.

FRENCH FUMIGATING PASTILS.

Gum benzoin	2 ounces
Cascarilla *gratissima*	1 ounce
Gum tragacanth	¾ ounce
Olibanum (*frankincense* of Holy Writ), liquid	1½ ounces
Styrax, liquid	1 ounce
Nitrate of potassium	2 ounces
Charcoal.	1¼ pounds

Enough water, or rose-water, to make a stiff mass.

For *Pastilles aux Fleurs d'Orange* add to the above mixture

Orange-powder	10 drachms
Extract néroli-pétale	½ drachm

and beat the mass up with orange-flower water instead of rose-water. Or, to a half-pound of the mixture add this:

PASTILLES À LA VANILLE.

Powdered vanilla	1 ounce
Powdered cloves	2 drachms
Essence of vanilla	2 drachms
Oil of cloves	15 drops
Oil of cassia	15 drops

Beat the entire mass together with cinnamon-water.

Still another formula commended by Cristiani as burning with "little smoke, and that a pleasant one," is this:

FUMIGATING PASTILS, NO. 2.

Olibanum	4 ounces
Benzoin	4 ounces
Oils of lavender, cloves, cinnamon, thyme, caraway, santal, rhodium, and geranium, of each	1 drachm
Nitrate of potassium	1 ounce
Powdered willow charcoal	2 pounds

The nitrate is dissolved in gum tragacanth, and the whole mixed and moulded into cones as previously directed.

Fumigating ribbons—*ruban de Bruges*—of which French women are extravagantly fond, are merely fine, flat lamp-wicks dipped into a solution of nitrate of potassium (saltpetre) and dried, and then soaked in aromatic tinctures. A French formula requires about 6½ drachms of saltpetre dissolved in a pint of warm rose-water. The following tinctures are prepared and allowed to stand for one month before using:

BOTTLE NO. 1.

Teinture d'iris	10 ounces
Gum benzoin	3½ ounces
Myrrh	5½ drachms

BOTTLE NO. 2.

Alcohol	10 ounces
Musk	3½ drachms
Essence de rose	35 drops

After standing a month, with agitation at intervals, filter the tinctures and mix them together; then soak the wick in the perfume, after which it is dried and rolled. There are many ornamental devices for containing the *ruban de Bruges*, but all are provided with a lamp burner in which

the wick is inserted. After lighting, blow out the flame, and the wick will smoulder till it reaches the metal clamp, when it dies out unless turned up. The quaint Roman and Pompeian lamps make most attractive incense-burners, and look as if restored to their original use.

Peau d'Espagne affords the most convenient method of perfuming many of woman's small belongings where a sachet would be in the way, and it has the additional advantage of holding its perfume for many years; so that it may be said to outlast generations of sachets, and for that reason well repays its cost or the trouble of preparing it. A selected piece of fine, even chamois is put into the following mixture and left for three or four days:

Oil of néroli	1½ ounces
Oil of rose	1½ ounces
Oil of santal	1½ ounces
Oil of verveine	¾ ounce
Oil of bergamot	¾ ounce
Oil of lemon	¾ ounce
Oil of lavender	¾ ounce
Oil of cloves	150 grains
Oil of cannelle	150 grains
Oil of girofle	150 grains
Tincture of tonka	¾ ounce

Dissolve a half-pound of benzoin in one quart of alcohol, then add the above oils. When the chamois is taken from the extract, press it gently with the hand,—don't wring it,—let it drain, then spread it, smoothest face down, on a pane of glass to dry. When perfectly dry the following paste is spread over the wrong side with a brush:

Benzoic acid (sublimed)	150 grains
Musk	15 grains
Civet	15 grains
Gum acacia	1 ounce
Glycerine	¾ ounce
Water	1¾ ounces

those for the bottoms of trunk-trays and bureau-drawers with a backing of cheese cloth. There is a thick layer of cotton batting, generously strewn with perfumed powder, and they are covered with silk in harmony with the perfume; violet shades for heliotrope; violet or blue for violet; yellows or orange-color for any of the citron odors, and pink or rose-color for rose. All large pads are tacked with baby ribbon, in tufts or tied in tiny bows, and the edges are fastened lightly, so they can be easily opened to renew the perfume.

Silkoline answers very well for these sachets and pads, and it comes in so many pretty floral designs that it is easy to match flower and perfume, and secure a great deal of daintiness at small cost. Large, thin pads, eighteen to twenty inches square, covered alike on both sides, are convenient to lay over the tops of bureau-drawers to receive loose things and preserve order; and they are very useful in packing. Violet-perfumed flannel is tacked in strips into tailor-made gowns, and inserted under hat-linings; while women who gratify every whim have had all the compartments as well as walls and ceiling of large closets lined and hung with it.

The basis for most of these sweet-scented powders is Cyprus powder, made from reindeer moss, which is carefully picked over and then reduced to a powder. It smells agreeably itself and is very retentive of odors, hence its use. To it are added any sweet scents desired in various proportions. You can take any desired quantity of Cyprus powder and strongly scent it with triple fragrant essences or with mixed essential oils; and, if you wish, you can first reduce these to powder by trituration with a little lump sugar.

An agreeable mixture on the violet order calls for 30 parts of Cyprus powder (you can use half the quantities and call it ounces), 16 parts of orris-root, 6 parts of coriander seed, 2 parts each of mace and violet-ebony, and 1 part each of

cassia, cloves, musk-seed, and santal-wood. The substances must be coarsely powdered and mixed thoroughly:

LAVENDER SACHET POWDER.

Dried lavender-flowers (powdered)	10 ounces
Benzoin (powdered)	3 ounces
Cyprus powder	6 ounces
Oil of lavender (Mitcham)	1½ drachms

Sachets of the lavender flowers alone, or with the addition of a small quantity of orris-root and cloves, will keep away moths and impart a delicate fragrance which blends harmoniously with violet.

POUDRE À L'ŒILLET.

Cyprus powder	1 pound
Orris-root	½ pound
Red-rose petals	½ pound
Cloves	2 ounces
Musk-seed	2 ounces
Oil of bergamot	½ drachm
Essence de petit-grain	½ drachm

This last formula is commended by Cooley to be used also as a cosmetic powder for the face or hair. For this purpose, however, it is usually largely diluted with starch or talcum-powder.

FRANGIPANI SACHET POWDER.

Orris-root	2 pounds
Sage	4 ounces
Santal-wood	4 ounces
Vetiver	4 ounces
Musk	2 drachms
Civet	1 drachm
Oil of néroli	25 grains
Oil of santal	25 grains
Oil of rhodium	25 grains

The oils can be triturated with the whole mass or be first mixed with the finely rasped santal-wood.

CHAPTER XIV.

THE PRINCIPLES OF TASTE IN DRESS AND ITS INFLUENCE UPON CHARACTER.

"Thy gown? why, ay:—Come, tailor, let us see 't.
. . . . . .
What's this? a sleeve? 'tis like a demi-cannon:
What! up and down, carv'd like an apple-tart?
Here's snip, and nip, and cut, and slish, and slash,
Like to a censer in a barber's shop—
Why, what o' devil's name, tailor, call'st thou this?"

"Ourselves are to ourselves the cause of ill;
We may be independent if we will."

"Costly thy habit as thy purse can buy,
But not express'd in fancy: rich, not gaudy."

To urge women to give more thought to dress is superfluous; but, at the very threshold of considering this problem, it becomes imperatively necessary to point out to them that the manner of their thinking, their attitude toward the subject, is radically wrong.

It is incontrovertible that a pretty woman can be transformed into a fright by the manner of her dressing; and as well established is the fact that the woman who has the taste and *chic* to present herself always gowned becomingly and suitably for the occasion possesses a charm and an influence far more potent than mere, crude, unadorned beauty. Every picture is unfinished till set off by an appro-

priate frame; and experience has taught us all that the old aphorism which warns against the seductions of attempts to adorn beauty is as barren and misleading as that other anent its skin-deep character. In fact, the attitude of that age towards beauty and woman was wholly wrong, and the less we use its opinions as leading-strings the better for us.

Now, the artist suits the frame to his picture, and requires of it that it shall bring out and enhance the beauties of the latter. Never does he allow the frame to overshadow or distort it. But what does woman do? She goes to her tailor or dressmaker or the great department-shop and docilely—nay, too often, eagerly—accepts the newest thing in cut or fabric; and taste, sense, judgment, propriety, and suitability are all sacrificed to woman's inordinate craving for novelty. Therefore, no matter how tasteless or unbecoming the latest invention of the uncultivated designer be, it is seized with avidity by the tall woman and the short, the obese and the thin. If the mode happen to be becoming to any of them, they are lucky, for that is only a minor object in the consideration of the designer, whose skill is aimed chiefly at conceiving something of striking originality.

Incidentally, there are other objects, secrets of the trade, which I will disclose to you: The more material consumed, so much the better; the more it is cut up, the better; the more easily the gown is defaced and the more perishable the stuff, the better. When criticising faults of this nature, as, the weight of the crinoline (horse-hair) linings and their cutting the silk linings, I have been repeatedly entreated: "Don't say anything against it. It is good for trade." There is no remedy for this condition of things as long as women persist in playing the game of "All we like sheep," and jump with eager abandon, the one after the other, in their rush to be fleeced.

Could any other hypothesis account for their turning deliberately from so convenient and so really artistic and

becoming modes as those enjoyed two years ago and before, to accept the apotheosis of ugliness and inconvenience which is regnant in this year of grace 1899? It is a mild and self-restrained criticism to say, that the style of dress generally worn at present certainly impeaches the intelligence of woman.

Woman's taste should rule trade; and the successful merchant, tailor, and modiste should be those who have the intelligence and artistic ability to anticipate the legitimate needs of that taste, and to assist in its development and improvement. What is the actual situation?

In their present attitude towards dress, women are constantly warring against themselves and their own healthy development. Dress is made the be-all and end-all of existence; and they yield themselves pliant tools to be freely used as pegs upon which to hang any ridiculous thing that is pronounced "all the rage"; from a chain of gaudy beads, like unto those for which good Peter Minuit once cleverly bought the whole of Manhattan Island; to a skirt overloaded with meaningless ornament, cut into objectless points which violate the harmony of its lines, flopping under the heels, and strained so tightly around the hips that accidents to the safety-pinned plaquet cause most embarrassing, when not horrifying, disclosures!

One is forced to acknowledge the truth, however painful, that women do not in their dress evince any higher taste or principle or even greater concession to the laws of health to-day than centuries ago. In fact, they apply wisdom and intelligence to every object except *dress;* but on this point are still the puppets of occasion and the vagaries of changing seasons; and confront the vital questions of dress with no more appreciation of its importance than the babe in arms or the untutored savage.

There are, of course, brilliant, but isolated, exceptions to this sweeping statement, but all rules are proved by exceptions. And the most discouraging aspect of the prob-

lem is, that the women who have the leisure, the means, and the position to act independently, and have the power to evolve order out of chaos, if they seriously considered the subject, are the very ones who are most culpable for the continued subserviency of women to ephemeral fashions and all the demoralizing influences and consequences that follow in the train of devotion to so lawless and ungovernable a tyrant; who is, alas! amenable to no authority.

Satire is the only weapon which has ever had power to turn Dame Fashion in her headlong, capricious course. And mammon has muzzled satire! These rapid changes in the modes of dress and all pertaining thereto may be favorable for commerce; but their influence upon life, in manifold ways, is positively vicious.

American women—as a rule—have, heretofore, shown themselves possessed of an intuitive æsthetic sense and a quick perception of harmony, which for many years have guarded them from all crude violations of propriety and fitness of dress to time and occasion. But lured on by the shimmer of spangles and paste jewels and clever imitations of all the splendors the world has ever invented for the undoing of nations, they have relegated these distinguished and refining characteristics to "innocuous desuetude"; and embraced, with a very abandon of ardor, the overelaboration of the present period, which has reached a point of vulgar ostentation. Instead of making dress a means of enhancing her charms, woman has allowed it to become the vehicle of her undoing.

Dress, which formerly raised a sharply accentuated dividing line between the rich and the merely well-to-do, has to-day levelled all class lines; except, of course, that the very poor can be distinguished from their more fortunate fellows. My meaning, however, is, I think, clear. Beautiful fabrics are so cheap that they are quite within the reach of people with the most modest regular incomes; and what were formerly luxuries, reserved for the use and enjoyment

of the wealthy, can be compassed by that sort of scrimping and saving which is misnamed economy. In the practice of which, many foolish daughters of Eve wear out souls and bodies.

I have only respect and encouragement for an earnest endeavor to "get on in the world." The grave, disastrous mistake is in what different people understand this to mean. When the ambition is solely to have means to spend more at the market, and to rival your friends and acquaintances in the variety and splendor of your clothes, it is not worth a farthing, and advances neither you nor your country nor humanity. Improvement in worldly affairs is only of value as it gives to men and women freedom to order their lives in accordance with higher needs, to ensure leisure for mental growth, and for the cultivation and practice of that sympathy for all human interests which develops, elevates, and refines character.

There was never a time in the history of the world when women could, at small expense, be so charmingly and so attractively clothed; yet in all the periods chronicled by Racinet there have been few when dress was uglier, more unsuitable to time, place, and occasion, more inconvenient, and more immodest than it is to-day. How manifestly absurd it is to raise a shocked hue and cry over woman's wearing knickerbockers, yet utter no protest now when she is engaged in performing the degrading office of scavenger and street-cleaner with skirts that are skimped for cloth except where they ought not to have it! They are skin-tight over the grossest and least attractive part of her figure, displaying it much more than knickerbockers possibly could. In many of these atrocious skirts, the whole outline of the thighs, even, can be seen as distinctly as those of the chorus girl in the spectacular operetta, where no attempt is made to drape them and they stand confessed in tights. When the jellying flesh of the obese woman is thus displayed, 'tis a lenient criticism to call it disgusting.

It is a well-known tenet of artists and moralists that the mental—and consequently moral—effect of gazing upon the undraped human figure is not comparable to that of the partially draped one, especially in motion, which half-conceals, half-discloses charms not wholly confessed. A woman who attempted to walk down Broadway in her bathing-suit would be promptly arrested. Yet the average bathing-suit, such as a refined, dainty woman wears, is altogether more modest than the present, almost uniformly worn skirt, which, with neither beauty nor grace to recommend it, twists about the limbs and impedes motion in a manner to treble fatigue.

We have relinquished, actually, in multitudes of cases, thrown away, exquisite fabrics of soft and pleasing combinations, and others of positively sumptuous beauty, marvels of both designer's and weaver's skill unequalled heretofore in our century, for what? Plain stuffs, often of crudely aggressive color, that are made barbarous by overelaboration of trimming.

A fundamental law of art concerning all ornament is, "Nothing that is marked and distinct should ever trace a line that goes contrary to nature." Ornament which has no reason for being, like frills which simulate impossible aprons and festoons that look as if they had been pitched upon the gown from a great height, is an abomination to artistic, honest eyes. When dress becomes a mere matter of ostentatious display and rivalry it loses all its charm. "No matter how rare and priceless a thing is, its only value in a scheme of good dressing is to enhance the beauty of the wearer."

Now, beauty is a purely relative thing, and from the moment you admit this you acknowledge that a style which is beautiful on one woman may be even hideous on another. No woman should tolerate any mode which travesties her peculiarities or accentuates physical deviations from symmetry and harmony. Yet you cannot walk far in any city

street without meeting many women who are burlesques of themselves. Exaggeration is always vulgar, betraying the uncultivated mind which cannot distinguish the delicate distinctions that separate the beautiful and suitable from its caricature, the useless and absurd.

Where are our women of elegance and taste who, formerly, suited their dress to time and occasion? The increasingly brilliant luxury of dress on our streets for more than two years past, often rising to a point of brazenly vulgar ostentation, has been so painful a spectacle to thinking women of refinement as to suggest problems of the deepest ethical significance. It would be impossible for vice itself to flaunt more boldly than do the bedizened women and girls, tricked out in startling color combinations and loaded with superfluous ornament, whose costumes are considered successful in the exact proportion that they are audaciously novel. Strangers might well be excused if they made the mistake of believing they had stumbled into a disreputable quarter of the town.

There is certainly something wrong with both the head and the heart of a respectable woman when she will so clothe herself as to cast the shadow of doubt upon her character. Inevitably the bloom and the delicacy of a woman's mind and morals are dulled, if not rubbed off, in the process of striving on these lines to attain distinction as a smartly and elegantly gowned woman. She is coarsened through and through in the process, and loses any nice sense of discrimination which she may originally have possessed and which would protect her from gross extravagances of color and form. It is a perilous path to tread, for nothing stifles the moral sense so completely as devotion to the love of display,—the insatiate longing to attract attention and admiration; and its consequence, the wonting one's self to bear with hardy *sang froid* the bold, not always admiring, gaze of the vast unknown multitude.

In the metropolis, this deplorable aspect of the question

confronts us more significantly than elsewhere, perhaps, because its opportunities draw to it, in addition to the "Grand Army" of noble women who come here to wrest from fate independence and, mayhap, fortune, a vast horde of the weaker sisters; often very young, half-educated, and untrained. This class of girls come usually from good homes and are perfectly innocent when they begin life in this great mart for brains and ability. But, frequently, not necessity but the desire to earn money to gratify a love of dress brings them; and they are without fixed principles and sterling qualities of character, and their morals are imperceptibly sapped by the temptations which surround them. We can none of us walk abroad or ride in the street-cars without encountering many pretty, attractive girls whose sidewise glances from the corners of their eyes, and coquettish lift of the gown skirt to display the first silk petticoat, betray the fact that they have started on the wrong road; and dress is the lure every time! The more showy it is on the street and in public places in the daytime the more demoralizing is its tendency.

Elaborate dress should be confined to social functions and public amusements in the evening; and a woman who is compelled to use public means of transport in going to these should select her wardrobe accordingly. She can be becomingly and richly enough gowned for any occasion without violating *les convenances;* but she should not wear, and it is certainly questionable if she can afford, the delicate and conspicuously showy costumes which the woman who rides in her carriage can indulge in.

I was one of a group of cable-car passengers who witnessed this spectacle not many months ago: Time, broad daylight, late afternoon; enter a florid blonde of imposing proportions, wearing a pearl-white satin brocaded with a delicate all-over floral design in green and lavender with glints of gold-color. Ruches of narrow satin ribbon of the colors of the brocade meandered in meaningless scrolls all

are like contagious diseases, and education and intelligence are actually powerless to render a large class of women immune. The women who start such things—the sources of the infection—exercise a most deleterious, depraving influence upon society. If only it could be quarantined against them as rigorously as the country would be quarantined against the bubonic plague, it would do much to elevate and refine womankind and, consequently, society.

It was this type of mischief-making woman whom that keen critic Mr. Price Collier described in these words: "One of those divorce-breeding, and divorce-excusing women who are bad without vice, and good by the grace of God."

Until we are rid of all these follies, we must simply acknowledge that in matters of dress we have not advanced one jot from the most absurdly artificial and ridiculous periods. It is simply our good fortune that we are not wearing the embarrassing high-pointed hennin on our heads and rolling along the streets in the barrel-like farthingale of Queen Bess's time. It is chance, not principle, that prevents. The present period of retrogression and degeneration is the more to be regretted because it has followed upon, and exists coincidently with, the establishment of those favorable conditions of health and interest which have been striven for for generations; Utopian ideals first, but accomplished facts now. Yet we see woman jeopardizing the freedom she has won, by her present follies.

Two years ago the outlook was much more hopeful. It seemed as if we were approaching a higher ideal of dress in correspondence with the physical, mental, and ethical advancement of woman; an ideal which would be a natural expression of her needs, and indispensable for her comfort. For a time all street, business, and travelling dress was influenced by the new interests which had come into woman's life and were so transforming her. But despite her improved physical development, and after having known the comfort

and freedom of rational dress when clothed sensibly and artistically for the enjoyment of the healthful sports which have, within the last five years, become an important part of so many women's lives, at Fashion's nod she throws away her physical freedom as lightly as she would a last season's bauble !

We find her again compressing her superbly rounded figure into corsets five to six inches too small for her; paring down her hips because hips are "out of fashion," in short, no longer worn; and hampering all the litheness and freedom of her walk by the sheath-like trailing gown. This train, too, adds to its iniquity by violating all the traditions of what a train should be, and mops the ground on the sides as well as behind. Ruskin said many years ago: "I have lost much of the faith I once had in the common sense and personal delicacy of the present race of average English-women by seeing how they will allow their dresses to sweep the streets if it is the fashion to be scavengers !"

To one who has limitless faith in the ultimate conquest of all good and the triumph of the right, it has been painful to witness the postponement of the millenium by such a period of decadence when so much conquered territory has been lost. The amazing thing is that some influence—is it the power of the advertiser ?—has shut the mouths of the press, usually quick enough to assail any folly of woman; but singularly silent now when it never had a more shining and conspicuous mark for its cutting shafts of ridicule.

Where is our smart tailor-made girl, the trig, well-groomed [a hateful expression,—newspaper English; but vividly descriptive] creature who for so many seasons was the much envied and most admired woman on our streets ? We worship her memory only, now, for her dainty self is a thing of the past. Her place is occupied—note that I do not say filled—by a rainbow creature who has sacrificed all freedom of motion to the unnatural, inartistic, often grotesque, lines of her be-furbelowed gown. 'Tis impossible

to call her well-groomed. That implies speckless daintiness, fine lines, ease. The gown of '99 is usually mussy, and frayed around the bottom, and always in need of brushing and cleaning.

Many times I have seen men look at these skirts, sweeping up unmentionable filth, with an expression on their faces which on shipboard would have speedily brought them the steward's attention. And every time I wished the woman within the skirt could see the expression also. Imagination cannot help wondering what can be the condition of *les dessous;* and the menace to health from the microbe-laden dust thus swept along in clouds that penetrate all parts of the clothing and the body itself, is so grave that it should not be ignored nor treated flippantly, but with the utmost seriousness.

The pessimist might argue with forcible logic that Froude's prophecy of the decadence of free governments was on the verge of realization. If you would read a picture so graphic that it might have been drawn as descriptive of these very years which we are now living in our loved Republic, just glance over the first chapters of Froude's "Cæsar," describing Rome in the mad whirlpool of money-making, luxury-loving citizens who wrought her downfall.

"There are courses of action," says the historian, "which have uniformly produced the same results. . . . It was an age in so many respects the counterpart of our own, the blossoming period of the old civilization, when the intellect was trained to the highest point which it could reach, and on the great subjects of human interest, on morals and politics, on poetry and art, even on religion itself and the speculative problems of life, men thought as we think, doubted as we doubt, argued as we argue, aspired and struggled after the same objects. . . . . .

"The Romans ceased to believe, and in losing faith they became as steel when it is demagnetized: the spiritual quality was gone out of them, and the high society of Rome

itself became a society of powerful animals with an enormous appetite for pleasure."

I have quoted this because I wish to impress upon women the gravity of present conditions, and the fact that they are in a great measure responsible for them and for their correction. The responsibility is both collective and individual. No woman is so insignificant that her example has not some influence; but there is such union and organization of women now, for purposes of intellectual and humanitarian work, that it should be an easy matter to wield an absolutely irresistible combined influence.

A great work for the elevation of woman and the race can be accomplished when the women's clubs will take up for serious and earnest consideration the subject of The Ethical Influence of Dress. From the first it should be cut loose from any association whatever with any fads or regulations, healthful, rational, or otherwise, or anything suggesting uniformity or radical changes. These, many of them desirable in themselves, will be reached in time, by a healthful and natural growth of opinion, when women study the subject, logically, from an historical point of view, and are made to realize the enormous influence which their attitude upon the subject exercises upon the prosperity and advancement of nations.

"The difficulty of conduct does not lie in knowing what it is right to do, but in doing it when known." You cannot play with fire without being burned; you cannot imitate a bad model without corrupting yourself. The modest woman who yields to the persuasions of her milliner, bolstered by the assurances that it is "positively fetching," and selects a dare-devil hat, grows insensibly used to the bold attention it attracts to her, and ends by rather liking it. Exaggeration always runs a headlong career, plunging from one extreme to another which is more barbarous, never stopping short of caricature and monstrous caprice.

The influence of dress is far-reaching. It modifies a

country's literature, ideas, and language; it is felt in every branch of its art, which it perverts and degrades when it does not elevate it; and a nation's economical condition is most powerfully affected thereby.

Whole towns spring up and flourish upon the vogue given to a single fabric, as at Saltaire when Titus Salt succeeded in producing a desirable stuff from the alpaca wool imported into England from Buenos Ayres. Its popularity continued for twenty years. Then Fashion ordered closely clinging gowns, and soft Eastern materials, cashmeres, crapes, and diaphanous tissues took the place of alpaca; and, in consequence, the factories at Saltaire were shut down, and the prosperous little town came to need and destitution. In the same way the immense interests involved in the manufacture of shawls, in France, England, and Scotland, have during the past twenty-five years seen their trade almost entirely extinguished, and faced ruin where they could not divert their " plants " to other fabrications.

The genius that anticipates or fills a need makes a fortune out of supplying it. And only four years ago the money made in manufacturing fibre chamois and spent in advertising it, precipitated upon women the period of the exaggerated use of such stiff inter-linings. Literally, hay was made while the sun shone, in this case; for anything so artificial, so heavy, and so inconvenient was necessarily short-lived. But the very effort to increase the trade by using it in manifestly absurd ways, as to line sleeves, hastened its disuse; and women, by lending themselves to the trick and expanding their sleeves till they became weapons of aggression, threw into disgrace a feature of their gowns that had been more picturesque and universally becoming than any style that had been in vogue for over a half-century.

The perfectly tight-fitting sleeve is becoming to but a very few women, and even they would look better with one that was slightly puffed or a *gigot;* while to the vast rank

and file of women it is trying from the mere point of unbecomingness to hideousness. The outlines of the tall, thin woman are accentuated till her arms have a spidery suggestion, while every pound of the obese woman's flesh is trebled. The hardness and rigidity of outline of the close sleeve are especially trying to women of middle age and older; and the artistic, puffed sleeve takes off from ten to twenty years from some women's ages.

Economically considered, however, of vaster significance than mere local factory interests which affect a few thousand people, more or less, are waves of demoralizing exaggeration and intensity of expression in form, color, and ornament, like the present; which sweep in high tides over whole countries and debase the taste and morals of the people. We are making history, now; and the giddy pace of even the thoughtless ought to be arrested when attention is drawn to the curious parallel which is found to exist between the essential characteristics of the modes of to-day and those of 1799.

Beau Nash describes the dress of that period as "of unusual splendor." Dress had made a precipitous plunge from Grecian simplicity to Oriental gorgeousness. Never had jewels been worn so lavishly in Paris. Long neck chains and girdles set with gems were conspicuous features; and not since the days of Queen Bess had woman's dress been so encrusted with jewelled embroidery and the glitter of metal threads. The mad riot of pleasure-seekers, the loose morals and lax manners in what, because of its wealth and position, was called "the highest society," smirched all the years following the French Revolution, and left its taint upon the early decades of this century. The history of the dress of the people, in that period, is the history of its morals, its intercourse, and its thoughts. We live again in its daily events when we picture the actors and their occupations. Judged by the same standard, how shall we appear to the historian of 1999?

We really plume ourselves upon having stridden up the heights of progress and civilization in seven-league boots during the past quarter of a century; but, when the historical eye is focussed upon our era, what can the verdict be but one of amazement that a people with such opportunities could so misuse them? What we have achieved will sink into insignificance before what we might have done.

"The strongest principle of growth lies in human choice." And as long as women, whose responsibility and privilege it is to set the standard for the morality of the race, have no fixed principles governing them in a matter which exercises the most powerful influence upon this, just so long will there be these cycles of decadence,—of "benefits forgot." Like the moon's influence upon the tides, so woman's dress is not merely the index of the morals of a nation, but is that impelling force which raises or lowers them. This influence, too, has increased enormously in the last half-century; for class lines, especially in the United States, are well-nigh levelled, and means of communication are so frequent and so rapid that the most remote village has its telegraphic, if not telephonic, finger on the pulse of the metropolis. Thus the tides search the very depths and the most remote creeks and inlets, leaving no creature uninfluenced!

It has been said that true feminine weaknesses are incurable, but I will not concede this. If I have seemed a severe critic, it is because I know of what woman is capable, and what immense injustice she heaps upon herself. It is a case of "While there is life there is hope." Always the penny-a-liner has practiced his pretty wit at her expense, as witness this fifteenth-century bit of verse:

> "Na preiching will gar them foirbeir
> To weir all thing that sinne provoikis,
> And all for newfangilness of geir."

Now, as a matter of fact, in those days and even to the close of the eighteenth century, his lordship, man, who

smiles so superiorly upon the foibles of woman's vanity, went to so great extremes in dress that woman could but feebly imitate his follies and extravagance. Gloves were worn by men for many years before they were generally worn by women. The corset was worn as universally by men as by women, and the beau, military or civil, girt in his waist with the same reckless indifference to health and natural beauty as the weakest of her sex. When man wore lace, and he was extravagantly fond of this beautiful adornment and a connoisseur of its value and quality, he could not lavish enough upon the upper part of his person, so he bunched it to dangle from his garters and on his shoe-tops, and round the tops of his boots! O vanity! thy name is not woman!

The route that freed man from this tyranny of capricious custom is open to women. It is but the exercise of that free-will which is the birthright of every human being. Our constantly changing fashions are but a confession of utmost weakness, indecision, and ignorance. With keen insight, Edmund Russell has said: "We do not know enough when we get a good thing to keep it, like an actor who before he finishes one gesture begins another and expresses nothing."

Grievous faults of the present period are that the shapes and outlines of gowns and hats are so hideous; that color is so crude, vivid, and often aggressive; that all laws of color-combination are violated; that trimming is so lavishly and inartistically employed; and that street-dress is so unsuitable and conspicuous. The most elaborate gowns of delicate silks and diaphanous fabrics, worn with plume-laden picture-hats, whose only appropriate place of display is a garden-party or similar gay social function, are worn for shopping, paraded up and down the streets, and seen in hundreds on all the public water-excursions round about New York.

Admirable taste has heretofore regulated woman's yachting dress; gowns, wraps, and hats being perfectly suited

for their use, and the yachting-woman has been a most *chic* and fascinating creature. But, yesterday, some women who attended, as guests on noted yachts, the Astor Cup Races, at Newport, wore *chiffon* gowns! What are we coming to? The woman who will commit such a *faux pas* should be constrained, for her own protection as well as that of society. This barbaric and childish love of finery, which lacks any discretion in its use, has always come to the surface in periods like the present.

In the sixteenth century, one Picolomini gave some good advice, couched in the form of a dialogue (*La Bella Creanza delle Donne*), to the women of his day which is timely now. He attempted to admonish them of their errors in taste and judgment, and in so doing has contributed to this age a time-spanning mirror in which we see ourselves reflected: Dress, he declared, should be fitted to station in life and to means. "The excellence of a new fashion must be judged by the two standards of richness and elegance. The richness of a dress depends upon the fineness of the material, whether cloth, serge, or other tissue." All richness was without avail lacking elegance and taste. In form, a garment should be ample and in flowing lines. The danger of mixing colors was dwelt upon, and the principle laid down that one color only should prevail in a costume, and that must suit the complexion. "Red is generally a most pestilential color, and suits no complexion," is a dictum with which Lafcadio Hearn, who has been so impressed with the Japanese color-development, would cordially agree.

Picolomini advised women of good form to set the figure off to advantage by the lines of the gown, while those whom Nature had slighted were counselled to make good their short-comings by such artifices as could cleverly conceal them. All of which is one of the canons of good taste and good sense now, and always must be; but, I wonder, will the fashion-moralist in 2399 A.D. still be laboring to induce women to practice the precept?

Our interesting chronicler has much to say about cosmetics and cleanliness, and insists "A gentlewoman ought to wash herself every few days in warm water perfumed with some sweet-swelling substance; for a nice cleanliness gives a bloom to a woman's beauty." He noted, with much humor, absurd and affected ways of walking, and recommended the ladies to decide between the right and the wrong ways by means of their own good judgment, tact, and taste. The ruses of beauty and coquetry in their careers of social triumph were as varied, as subtle,—nay, often as unscrupulous,—as in our day; and it would seem that the chief external differences between those dames of long ago and the modern woman, who is now preparing to step into the new century, are, that the latter has, as a rule, nicer perceptions as to what cleanliness of person requires, and is not so apt to be bedaubed with baleful paints and cosmetics; but the former was much more rationally and artistically dressed, and bore herself more gracefully.

The modern dress of woman does not lack ideas that are, in themselves, beautiful, convenient, and artistic; the error is in their application, and in the gross exaggerations which are introduced purely for the sake of novelty. Decoration should not assert itself, but increase the beauty of the object decorated. What is needed? Sincerity, free-will, and independence of judgment; a triune of power before which irrational, whimsical conceits would tumble like straw dummies.

Why do we not concede that an intelligence greater than ours created the human body, adapting it with exceeding great love and care to its divinely appointed purpose; and, accepting it with gratitude, develop it to the best of our ability according to natural, which is divine, law? When we acknowledge this as the highest aim, it will be the universally accepted fundamental law of taste; and we shall have a standard which we can, if we will, make as immutable as the laws of the Medes and Persians, that will

become the needed restraint to the insane vagaries of Fashion which periodically transform women into absolutely grotesque objects. "Taste is nothing else than good sense delicately put in force."

At least we can set our faces against all ugliness and train ourselves to recognize it; and perversion of form is ugliness, and senseless foolish ornament as well. Every instinct of ambition and art should prompt us to strive for individuality, and this would prevent inane acceptance of every hideous device pronounced "all the rage." General conformity of dress obscures individuality and tends to produce similarity of expression and caste of countenance. And this tendency is alarmingly increased when, as now, there are fashions even in the expression of the mouth.

This is a fact, not idle rumor nor the humorous vaporings of the space-writers. It came in at the Horse Show, in the autumn of '98, and it is supposed to be a smile. The physical detail is most unhygienic; but this causes not a moment's hesitation on the part of Fashion's devotees, who sacrifice health on her altar without a tremor of doubt. The lips are held apart, showing a glittering double-row of teeth if they are fine; if not, the grin is not quite so expansive and the expression is analyzed as "innocent, wistful, wondering." This vapid whim of the open mouth, coupled with the sidewise glances from the corners of the eyes, which accompany the hats that are worn on the nose, has the curious levelling effect of effacing in large measure individual traits, and making many women look as much alike as peas in a pod.

This result of uniformity in headgear and the dressing of the hair was noticed by Violet-le-Duc with reference to the women of the fifteenth century, when they were wearing the hennin, with all the hair drawn severely away from the face and hidden beneath it. Miss Hill says: "Priests thundered against it in the pulpit, and poets satirized it, all to no purpose." It first appeared in France in 1428, and seems to

have come from Flanders and adjacent French provinces, where it was popularized before it was worn in Paris. In Normandy it was called the *cauchoise;* and there the women clung to it for centuries, not relinquishing it till a comparatively recent time.

Emerson furnishes a clew to the inception of these fads and freaks of manner, expression, gesture, and form, which seize upon whole communities and circles of society from time to time. He says: "No style adopted into the etiquette of courts, but was first the whim and mere action of some brilliant woman, who charmed beholders by this new expression, and made it remembered and copied."

Lack of individuality indicates a lack of development. Science teaches that the higher the scale of advancement, evolution, what you will, the greater the specialization: "Refined individuality is a recent and still unfolding flower." But we recognize it as a component part of all distinguished personal success.

There should be one fixed, unalterable aim held before every woman as the object to be attained in the selection of her clothing; it is her real opportunity for distinction and always open to her: It should set her off to the best advantage possible. The dumpy woman who barrel-hoops herself in encircling bands of trimming, and her six-foot sister who serpentines herself in striking stripes that add more than a cubit to her stature, are conspicuous misfits wherever they are placed. "'Tis the average woman's business for the benefit of the community in which she lives to look her best." No woman should make herself

> ". . . a sight to shake
> The midriff of despair with laughter."

I saw, recently, a woman with a sharp-pointed nose and angular chin wearing a drab cloth gown with a long overskirt cut in four or a half-dozen points that sagged at intervals round her figure. These points seemed as if

weighted to nose and chin, pulling them down in sharp peaks; and a woman who, becomingly dressed, would have had a certain air of refined dignity, looked like a hawk after a tussel in which its plumage and temper had both been severely rumpled. Every woman has some points of attraction; and that woman who discovers her own deficiencies and adapts her dress to conceal instead of accentuate them, at the same time brings out her good points and will make a better impression than many a prettier woman who has dressed herself according to the last novelty in color and form.

Dress cannot impart grace, beauty, or dignity to one lacking these advantages, but it can greatly enhance them. And it has infinite power to conceal and destroy these when it does not accomplish its legitimate purpose. It is easy to mitigate, if not entirely conceal, most imperfections by taste and cleverness in the selection of one's clothes; and it is necessary for a woman to study herself with the eyes of an impartial but inexorable critic. 'Tis an immutable law of a normal woman's being to desire to be lovely or at least comely, and such sharp self-examination will school and develop her critical faculty till she will, with unerring instinct, discover the best methods of attaining that individuality which shall be her charm and attraction. "The woman who fails to make a personal analysis, to recognize and understand her 'type,' will do random work all her life. . . . The tint of the complexion, the color of the hair and eyes, are but a small part of the *personnel*. The whole physique, the build of the body, mind, manner, will, nerve,—all must be taken into account in the general make-up. The type is a fact fixed and inevitable; the wise woman accepts it, and thus sets herself to develop and emphasize its beauties, to overshadow and efface its defects."

Neither art, as commonly interpreted, nor fashion should be accepted unconditionally as arbitrary leaders. Taste has more than one aspect, and must consider occasion and use

as well as proportion and combination. It is not *taste* unless it does!

Women of wealth and position can release themselves from the thraldom of Fashion and become its arbiters if they so decree, instead of submitting like docile dolls to be display forms for the modistes and *couturières*. All power to direct the fickle turnings of this variable weather-vane rests with them, and the responsibility is great; for until the present aims and ambitions of the world are radically changed, they must ever be and remain brilliant objects of imitation to those struggling on the lower rungs of the social ladder. What they reject will be rejected by the masses. Always middle classes have aped the dress of those above them.

A crying evil is the fact that " It is the object of most men and women to provide themselves with apparel that shall *not* denote their station, but the station of somebody richer and better placed." When Miss Tilly Bauer, of the East Side, reads that Mrs. T. wore a lavender *chiffon* gown on a yachting trip, she will strain all her resources and sew far into the night to compass a lavender lawn, much ruffled and trimmed with cheap lace. A pretty gown it will be when finished, and on the first Sunday it will be aired at Coney Island, for its owner has engagements through the week with an iron-hearted employer and her excursions are limited to half-holidays and Sunday.

If Tilly knew that it was bad form to wear anything on the water but serviceable stuffs like serge, flannel, and piqué or crash, she would shun the lawn like temptation, and reap an infinite gain in comfort. This is one example of Mrs. T.'s responsibility, but thousands could be cited.

Out of the folly of the present there should spring, as a Renaissance in the new century, a style of dress based upon general principles so broad and conservative that it could be adapted to every individual peculiarity and need. Then clothes would be subordinated to the woman, not the woman

gard for propriety and good taste. Fur gains nothing by applications of embroidery or from being flounced with lace or accordion-plaited chiffon. Hudson Bay sable, that in itself makes a rich and luxurious wrap, has been cut into wide circular flounces and mounted on satin foundations, alternating with wide frills of Chantilly lace or plaited chiffon. A few years ago we should have said absurdity could go no further, but the mind is prepared for anything now. Unless the good sense and taste of women can be aroused there is no limit. As long as some one can be found who will buy and wear such abnormal monstrosities, just so long will they be made. We may be offered accordion-plaited fur next season. That is about the only unsuitable manipulation to which it has not been distorted.

Till the reign of what will be known in history as the "tailor-made" gown, women had never been clothed in a fashion which united so many advantages. In addition to its refined elegance, it possessed every element of utility, and there was such variety in cut of basque, coat, jacket, and blazer, that every style and form could be set off to advantage. It was, *par excellence*, the best, most becoming, and most convenient utility-gown that all the chronicle of Fashion can show. The error that women committed with it, was to corrupt it by the addition of masculine touches which increased its severity, finally coarsened it, and ended by making it as uncomfortable as a suit of armor.

The stiffly starched collars, cuffs, chemisettes, and shirt-fronts are a modern invention for discomfort and for restraining the free motion of the human body, of which we have no need to rob men. They themselves leave them off with alacrity when free to don outing-shirts and be comfortable; and why should women pick up the discarded instruments of torture, which are as well beauty-destroyers? Least of all should they be worn on the wheel, where dress should be made the acme of comfort and freedom. The rarity of a pretty white throat is due to this long reign of the

stiff linen collar, which both chafes and browns the skin, and sometimes sets up an ugly inflammation, leaving a scar that is difficult to efface.

Women should give real study to the matter of throat dressing and especially shun uniformity. The short neck cannot wear very full dressing; the long one requires it. There are so many attractive ways of using ribbons and lace and ruching that something can always be devised that is both becoming and individual. And this is just the point where the feminine touches, instead of the masculine, should be given to the "tailor-made." Ribbons and real lace and soft white lawn, mull, and tulle ties are things which should never go out of fashion for neck-dressing. What species of blindness is it, that induces a girl to discard a pretty ribbon, the color of her eyes, to muffle her throat in a piqué plaster (called, I believe, a "four-in-hand," but they always looked to me like a whole circus-band team) which spreads expansively over her whole bosom, and is no more decorative than a Turkish bath-towel would be?

Colors have more than an optical character; they have, from their close connection with emotion and the feelings they rouse, a decidedly moral one. Some one has said that "Color is the moral element of the material world," but Fashion is most prone to misuse it. She either discards it utterly, and humanity goes in droves of melancholy black-and-white mediocrity, or else she orders all to prance to the mad measures of a harlequin dance; and dims the sun's rays with her garish reds, blues, and purples.

So recently as '93, Mrs. Oliphant speaks of no color that is not neutral affronting the eye of heaven, and considered it "a great gain to the world." She thought the "subdued tones of dark blues, dark greens, and soft neutral tints" were the natural expression of greater refinement in thought and feeling, and in consonance with woman's higher mental status. About the same time, Miss Hill, also

having in mind London, whose fashions we copy as much as those of Paris, thought that "The omnibus and tram-car have much to answer for in the toning down of our costume from gay to grave. In these democratic days everybody rides in public vehicles, and this custom not only tends to produce a sober uniformity of dress, but is a great bulwark against any huge extravagance of Fashion." *Nous avons changé tout cela!*

We have discarded exquisite stuffs in softly blended colors of Oriental richness, and patterns which had real *motifs*, for bright-hued, plain fabrics whose textures often had nothing to commend them except that they could serve as foundations for great elaboration of trimming. There is scant element of beauty in *glacé* silks and satins or in any smoothly shiny stuffs. They are hard and pitiless. A smoothly fitted black satin gown is the portly, middle-aged woman's snare, increasing the rotundity of her too ponderous flesh; and the patent-leather shoe performs the same disfiguring office for the large foot; while, for insignificant flimsiness, a beflounced black taffeta gown cannot be mated. Only by artistic color and pattern can taffeta be made a desirable fabric for gowns, and always there must be something that is a better choice for the purpose. For linings, petticoats, and shirt-waists it is always useful, and the changeable, or "shot," were especially pretty and suitable for the purpose.

It marks a distinct retrogression in the scale of refinement when a people turn from delicate colors, in their clothing and decoration, to the use of bright red, orange, yellow, purple, and green. It is only in a rudimentary stage of æsthetic feeling such as the child's and the untutored savage's that crudely bright, intense colors fail to repel. "The emotional nature of the uncivilized savage is so deeply stirred by a bit of red calico that he will barter an elephant's tusk for its possession."

Cultured vision seems especially to shrink from a strong

blaze of red. Speaking of this color Lafcadio Hearn says: "The more refined and humane a civilization becomes, the less are displays of this color tolerated in its cultivated circles . . . but the civilized adult dislikes most of the vivid colors: they exasperate his nerves like an excessive crash of brass and drums during a cheap orchestral performance." Students of color theories believe that there is something crude and untamed, when not cruel, an index of physical development without spiritual and ethical, in the nature which delights in vermillion and scarlet; and they cite the "bloody Jeffries" who when in his cruelest moods wore a red cap! The Bible gives to sin the color of scarlet.

The coarsest and warmest of visible rays in the solar spectrum is red; the coolest and most refined, violet. The finest colors are most elastic and, hence, refracted farther to one side by passing through the prism. Above the violet there is a vast range of color rays which are too exquisitely fine for ordinary vision to see them. Below red there is the invisible heat ray called thermal, of which we have cognizance only in the vibrations of the air. Mr. Babbitt ("Principles of Light and Color") says of invisible color rays: "These exquisite hues are manifestations of terrestrial, psychological, and physiological forces, which open to us many of the mystic laws of power in the inner world of things. They are so penetrating as to pass through most substances which are opaque as easily as ordinary light passes through glass; consequently those who can develop the inner vision sufficiently to get into rapport with them can see a new world of forces."

It is not a mere matter of imagination when we speak of red, orange, yellow, and their gradations as hot. Experiment has proved that thermal produces in two minutes and a half eighteen times as much heat-effect as blue in three minutes, while violet is still colder. A small amount of blue combined with these hot colors increases the heat because it kindles into activity, through chemical affinity, the oppo-

site principle in red. It is on this principle that a dash of cold water creates a glow of warmth by reaction, and electricity, which is a refined grade of cold, can excite the greatest heat known to man. A white heat is produced by combining the electrical blue with the warmer colors.

It has been noticed that only the most highly civilized races are capable of deriving pleasure from blue in its purest state. Although blue is a sacred color, the dominant emotions it arouses are those of gladness and tenderness; Lafcadio Hearn believes that blue evokes "a vivacious thrill,—a tone of emotional activity unmistakably related to the higher zones of sentiency and imagination." It is the color of divinity, the color pantheistic, the color ethical, "thrilling most deeply into those structures of thought to which belong our sentiments of reverence and justice, of duty and aspiration." All the highest and happiest emotions of the soul are embodied in those which visions of blue arouse.

Thus, color has to be considered not only with reference to its becomingness, but also its harmony with the character and its subtle effect, in consequence, upon the health and emotions. It is a most interesting and fascinating study in its complex influences, and chromopathy, which is the art of healing by means of light and color, would help a great many women to a better understanding of their physical and emotional idiosyncracies and to the ways and means of developing these on the highest lines.

Miss Nethersole says: "I have learned from nature, the greatest of all teachers, that as every feeling may be expressed in a chord of music, so each emotion of the heart may be shown by a color." When she first went on the stage, she chose handsome and becoming costumes without regard to the symbolism of color, but she found that they jarred upon her emotions and hampered their full expression. She analyzes her toilettes in "The Termagant" thus: In the first act, "I wear a green gown, because the girl is

just like a tender shoot or a flower, responsive to every passing breeze, swaying and bowing at the will of the wind. Scarlet represents the blood—the typification of strength, virility, utter sensuousness. Yellow is the color of jealousy, of pain and discord in the inner nature."

All persons, however, are not affected by yellow in this way. Certain shades of the color have a very cheering effect upon many natures, dispelling the "blue devils" of melancholy and depression, like rays of sunshine after a thunder storm. There are pale tones of yellow, especially creamy ones, that can be used by blondes with most artistic effect; and the deeper shades as well can be worn by the Titian-haired woman. She should eschew all blues, and especially if she has blue eyes, because they deepen the color of her eyes and render the contrast with her hair unpleasant. Often a color that is not becoming in itself can be adapted by interposing white between it and the face. This, however is not so advisable as to avoid the color.

Of all the artificial influences of Fashion the vogue given to one or more colors every season is most absurd; as if women could change their complexions and their hair and eyes with the vernal and autumnal equinoxes. Color, if ill-suited, has the power to eclipse a beautiful face. Yet one season, all the shop windows blossom out in ribbons, flowers, feathers, silks, and hats of corn-flower blue; and every type of woman, from the ashen-haired blonde to the mulatto, wears it in some form. Again, it is every shade of red that the dyer's skill can produce, and blonde and *brune* alike wear them all till the town is painted red.

Now, color is too precious a quality and an influence to treat in this frivolous fashion. We cannot afford to discard any color if it is really good in itself. When it is crudely intense, as certain vivid shades of purple, its corresponding blue, and magenta, it adds nothing to the beauty of women, is obnoxious in house-furnishings, wars with all other colors, and thus contributes nothing to the harmony or pleasure

of life; so we are distinctly better off without it. When the so-called *fade* colors, soft, delicate shades of pure colors, and their as delicate combinations, were restored to favor a few years ago, the beauty, attractiveness, and refinement of woman's dress gained perceptibly; therefore, these she cannot afford to lose. They are qualities to be retained till something better, *not* inferior, takes their place.

Every woman can achieve a certain individuality and distinction by confining herself to one or two colors; and, when close economy is necessary, this is a very important aid in securing a well-appointed wardrobe at small expense. For the countless little additions to the *toilette*—which are of much importance—will thus harmonize, and so many more combinations are possible. If there are certain harmonies of color that are trying to the many but suit you perfectly, you throw away a great advantage in not appropriating what you can thus make quite your own.

There are many types that find their real complementary color in one only, but, more than half the time, appear to great disadvantage because their insatiate craving for novelty induces them to dare the whole scale of the solar spectrum. It must be concluded that the color sense of these women is neither delicate nor accurate. They see a certain color and shade effective on another, and, even if she be a totally different type, they immediately essay to copy the effect. The fundamental rule which should govern all is to determine first, which of the three primary colors, red, yellow, and blue, harmonizes best with the complexion. There are three forms of chromatic harmony: the harmony of gradation by progression, where one color blends into another as in the rainbow; the harmony of analogy, formed by combining shades of a color; and the harmony of contrast, by associating complementary colors which develop each other's purity of tone and give a spirited contrast. Of the primary colors, each contrasts with that formed by the union of the other two: thus, red and green; blue and orange;

yellow and purple. Contrasting colors harmonize best when of corresponding shades.

Some of the most beautiful effects in dressing are produced by the harmony of analogy, but this does not mean that the pale, colorless woman shall lessen the life in her face by matching it with grays and cold browns; nor should she extinguish it by trying to reflect color into it from brilliant hues which neither harmonize nor contrast with it. The very dark blues and greens make a friendly background for her, and glossy blacks softened with lace are becoming; and creamy white, and pale pinks and blues furnish all the variety in colors she should allow herself to be tempted by. If she confine herself to these, she can make her costumes always effective; so the criticism will be, "It looks exactly like you," not "What a lovely gown!" This is the crucial blunder the majority of women make. They see a beautiful gown, and straightway they buy it or copy it; with the result that it obscures the woman as completely as the fog does the sun.

Some women find their most effective key by matching the hair as nearly as possible for day dressing, and the eyes or the flesh tints for evening; but this is merely a hint which finds effective application only for exceptional types. With dark brown hair, especially if it has the rich golden-bronze glints, browns and sometimes russets make a perfect symphony of color; and pure black-and-white gray, or that with a purplish cast is usually very distinguished with gray hair.

It is a mistake for elderly women to swathe themselves in black, believing it the only suitable thing for age. It brings out the sallowness and grayness of a dull skin and deepens all the shadows and wrinkles. It is becoming to those only who are fair, with plump, unlined faces. Mrs. Russell says: "Certain white-skinned, dark-haired women look well in black, but it ages any woman who has passed thirty. . . . Certain lines come with time, and time forms

character, but it is needless to advertise one's age by means of black gowning." When flesh has come with age, it is better to choose dark shades which render it less conspicuous. But the delicate elderly woman who has retained a measure of youthful slimness should wear all soft and delicate colors that are becoming to her. She is often lovely in creamy white and lavender and in all pure grays.

Usually dark women need deep, rich colors, and light-complexioned ones the medium and light shades; this being in consonance with the harmonic law of corresponding shades. M. Blanc says: "The color most becoming to a woman's beauty is generally that which is an indication of her character. A secret relationship exists between the moral temperament and the physical colors of the eyes, hair, and complexion. An involuntary harmony is at once established between the studied choice dictated by vanity, and that which results from the usual or a passing state of mind." This was written, however, before M. Blanc had had the privilege of seeing a woman wearing a yellow straw hat trimmed with ribbon, lace, and flowers running through the whole gamut of red, and having purple violets under the brim; the gown below the structure being serge in a bright shade of blue, finished at the neck with a green ribbon!

This is not an overdrawn picture, but actually seen. Query: What would M. Blanc have decided to be her moral temperament?

The same critic suggests as an unfailing guide that the style of a woman's dress should harmonize with her nose. The strong, regular nose requires great simplicity with richness, long flowing lines, and slightly varied colors. To its opposite, the *retroussé*, belong piquant contrasts and all the frivolity and *frou-frou* of *chiffon* frills and silk ruffles.

I would caution women against the use of very brilliant color in the street, and especially of sharp contrasts in colors. Two are the utmost that can be used with assurance

of good effect; anything more is a venture and usually disastrous. The best effects, the most successful costumes, are those where the predominating key is either uniformity or the harmony of close analogy. Simplicity is not only always safe, but it is *le trait vif*,—the very quintessence of perfect taste and exquisite refinement in a woman's garb.

"It is harmony of color, grace of form, and fitness to the personality of the wearer that make a gown beautiful; not richness, nor cost of ornament." It is unnecessary that as a rebound from the garish colors and eye-offending combinations of the past few seasons women should all rush into gray or black. There are a multitude of the quiet, harmonious tertiary colors, the olives, resédas, russets, chestnut, puce, mulberry, and soft blues that are too choice to discard, and offer a wide field for selection; and all of them when chosen with discretion are available for street wear.

The shape and form of a hat or bonnet are as important as the color. A woman with a small chin should not overbalance it with top-heavy breadth in her hat. She should wear a modest little toque fitting itself to the shape of the head, and the height of the trimming should be balanced by her own height. A tall woman does not need a steeple hat. It is the heavy chin and large face only, that can safely support the large, heavily trimmed hat. Coarse, thick lips are accentuated greatly by thick, roll-like whirls of trimming round a hat, and by thrusting the round brim low down over the eyes. The large face and small head, with greater height than breadth, must avoid the narrow capotes which are trimmed to a point. They need breadth at the sides. Hats should be tried on before a triple-folding mirror, and this should be the first luxury in which a woman indulges for her dressing-room. The outlines of a hat as seen from the back and in profile are hardly less important than the front view, and many atrocious hats would never be proudly flaunted on the street if only their wearers could see the side view presented to their neighbors.

pleased the fickle dame to frown on fastening these headlights to dainty ears. The beauty of the diamond is best brought out in combination with other gems; and small stones of fine color—a bluish cast to the white—are much more becoming than larger ones of inferior lustre.

Imitation jewelry is a craze which has done much to deprave taste in recent years, and woman's immoderate passion for gewgaws betrays her into the grievous error of expressing in her own person the distracting medley of a bric-à-brac shop. Few women realize that the money thus squandered in a year would, in very many cases, pay for one really choice and valuable ornament. It was a beautiful thought which led one father and mother gifted with canny foresight, to give to their baby daughter Marguerite, on her first birthday, a single fine pearl. Mates to it followed on succeeding birthdays, till the fair young girl, when eighteen, had a lovely strand for her neck. A somewhat similar idea was the birthday gift to another girl baby of a single strand of seed pearls, which was added to year by year, growing with the child and always a suitable ornament for her, till when she reached young maidenhood they were mounted with turquoise-set clasps and medallions, and made a beautiful collar.

There is an ethical as well as æsthetic reason for tabooing the ostentatious display of jewels on the street and in public conveyances. Ungloved, be-ringed fingers, and a multitude of glittering chains, dazzling pins, and jingling defacements —miscalled "ornaments"—are not merely the stamp of the vulgar woman, but a blatant and assertive proclamation of wealth before our poorer, and sometimes very weak, brothers and sisters, whose worst passions of covetousness, envy, jealousy, and discontent, are roused by the spectacle.

Even at home, the wearing of finger-rings is easily overdone. Refined taste draws the line at one ring only on the right hand; and until last year, an unwritten law forbade the wearing of a ring on the index-finger, of either hand,

any more than on the thumb. Some daring *grande dame* introduced this, however, as a fad, and we can only hope it will not be widely copied.

In one of his lectures on dress, Edmund Russell gives some valuable general suggestions: "A tall, angular woman wants something light and floating—a material that will follow every movement, multiplying lines and obliterating angles. Proper radiation of lines has everything to do with the grace and expression of a gown. The shoulders and hips are natural points of support. Let the drapery fall from these, and the result is a series of long, curving radiations that give life and beauty. With every change of position there is a new series of lines, all free to follow the swing and sway of movement. . . . Revealed form is vulgar, suggested form is poetic. . . . For a woman of light physique, delicate coloring, vitality, energy, and movement, any draping, clinging material—soft wool or lustrous silk—has a peculiar adaptation. The hard, stiff forms of the old brocades, with their prosaic, stencil-like patterns and strong contrasts of colors, suit but few women. They destroy poetic suggestiveness. A large, stately woman may wear them; a small woman, light and willowy, *must* not; it is a sin against herself."

Large women require dark and rich fabrics, with long, sweeping lines, suggesting the form but never defining it. Thus clothed they will achieve much dignity and apparently lose pounds of flesh. After having found a style of cut and drapery that is becoming, they can ring many changes upon it without material departure; and they should no more be tempted to adopt such crucially trying vagaries as the present modes than they would consent to figure in a skirt dance. Plaids are the large woman's undoing; and, indeed, they are not fitted for woman's wear as, whether gay tartans or monotones, they are devoid of all dignity or grace. The complicated and uneven hatching up of blocks and dashes of vivid color prevents all unity, and they should be reserved

dion-plaited lace run with bright-hued ribbons, is not seen on her, for all her belongings are dainty and specklessly fresh; so chosen as to harmonize with the whole *toïlette;* and so adjusted as to convey the impression that use was considered in their selection. Therefore, she does not wear a ball petticoat in the street any more than she would wear a tailor-gown to a ball. From her toes to the crown of her head the true gentlewoman's *toïlette* evinces the most scrupulous fastidiousness as to the fitness of things, one to another and the whole to the occasion. And the *tout ensemble* is so happy a medium of perfection, that the trained artistic eye alone singles it out in the crowd; while the public, overlooking the diamond of purest water, fixes its bold gaze upon a flamboyant arrangement of paste.

CHAPTER XV.

NATURE'S BLEST RESTORER: SLEEP.

"Of all the thoughts of God that are
Borne inward unto souls afar,
Along the Psalmist's music deep,
Now tell me if that any is,
For gift or grace, surpassing this—
He giveth his beloved sleep?"

"Canst thou, O partial sleep, give thy repose
To the wet sea-boy in an hour so rude;
And in the calmest and the stillest night,
With all appliances and means to boot,
Deny it to a king?"

IT is axiomatic that perfect health cannot exist without regular and restful sleep, proportioned in amount to the age and to the demands which life makes upon the individual. The want of it inflicts so rapid and so defacing inroads upon woman's beauty that there is no part of the healthful regulation of her life which should receive more serious consideration; yet I question if there is any other which is treated in so happy-go-lucky a fashion.

A large part of the world goes to bed when it cannot contrive any further expedient for staving off sleep. Those who are freest to order their lives in a healthful manner turn night into day from preference; in quite sublime indifference to the beautiful arrangement of Nature, which furnishes us a perfect model by which to regulate our habits, leaving nothing to blind chance or ignorant experi-

ment. It is generally conceded by those who have passed any length of time in the Arctic regions, either during the long summer day or the weird night of winter, that the human system suffers more from the want of the periodical alternation of day and night than from the severity of the climate. The prolonged night produces a depression that ultimates in irritability, affecting the mind and morals as much as the body. And the ever-present sunshine of endless day stimulates the brain unnaturally, making restful sleep always difficult and for some impossible.

Thus Nature points out the best way, and though her rules are never iron-clad, she admonishes us to violate them only when necessity requires. "Sleep is the mystery of life," and though much learned nonsense about it and many attempts at its diagnosis find their way into print every year, it is rare that the search of the earnest inquirer is rewarded with the smallest scrap of anything new or actually original upon the subject. Harrowing experiments are still made upon helpless dumb creatures to corroborate or disprove physiological beliefs over which there is much waste of hair-splitting argument; but which, one way or the other, contribute not one atom to the most important questions of all: Why is sleep next in importance to the rhythmical beating of the heart and to breathing? and Why can we not sleep when we most need to? As bearing upon these the discussion of whether anæmia—the withdrawing of blood from the brain—causes sleep or is the effect of it has no value whatever.

With a sympathetic grasp of psychological fact, M. Amiel refers to this greatest boon to mankind as "This symbol of creation, sleeping under the wing of God . . . our consciousness withdrawing into the shade that it may rest from the burden of thought." And he analyzes its benefits in these words: "To sleep is to strain and purify our emotions, to deposit the mud of life, to calm the fever of the soul, to return into the bosom of maternal nature, thence to

reissue healed and strong. Sleep is a sort of innocence and purification. Blessed be He who gave it to the poor sons of men as the sure and faithful companion of life, our daily healer and consoler."

Perfect, restful sleep is indispensable for the harmonious activity of the complicated, highly organized nervous system; upon whose integrity depends all efficient labor, whether physical or mental. But so generally are hygienic laws violated in practice, although acknowledged in theory, that, even among people of average health, there are many who pass through life without the slightest realization of the exhilaration and positive joy in living which really recuperative sleep can bring to one, and which should be felt always upon awakening. It is the exception to find persons who are ready to rise when they waken or who are eager to take up the duties of the day, even when those duties are of a nature that should make them absolute pleasures. Too often, even with those who are in average health, the morning awakening is as from a heavy stupor, and frequently there is a feeling of greater exhaustion than when the head was laid on the pillow at night, although the sleep may have been unbroken.

These symptoms, together with headache or a congestive sensation of fulness over the forehead, and swelling of the face or eyelids, are an indication that the conditions of sleep were unfavorable. In ten cases out of twelve all of this discomfort may prove to result from inhaling vitiated air, the blood being heavy with the lethargy of its poison; it is possible also that the temperature of the room was too hot or too cold; either extreme is pernicious. There is no more insidious evil than bad air, and it is the source of most of humanity's suffering. Just because we breathe more slowly during sleep is the rule imperative that every breath inhaled should be as free as possible from carbonic-acid gas, and unless there is a current of fresh, pure air entering the room and keeping the *air in motion* it cannot be so. It is

vain to suppose that a bedroom can be aired by receiving a modicum of fresh air from an adjoining room unless there is an opposite door or window to create a current. Without this the exhalations from the sleeper will hover over the bed till they form a dense blanket of impurity. The stupid insensibility which is induced by foul air is not sleep, but a heavy unconsciousness, similar to other poison-induced conditions, as when strong narcotics are taken; and it is not restorative, but, on the contrary, exhausting.

That bugbear of the half-enlightened, a draught, has killed more people than all the epidemic fevers that ever scourged mankind. But its death is less swiftly kind; it kills by inches. Persons with weak lungs, who are mistakenly supposed to be most sensitive to fresh air, are the ones who need it most. Impure air is the parent of all colds and most throat and lung diseases. Tuberculosis patients have gone to Arizona and recovered their health while sleeping out-doors eight months in the year. There should not only be an ample supply of fresh air in the sleeping-room, but there should be in the room no avoidable sources of contaminating it. No soiled water should stand in the room overnight; putrefaction is always rapid, and especially so in hot weather. A little fresh water should be left standing in all stationary basins and bathtubs to securely close the vent, and it is a wise precaution to seal the overflow holes with a bit of wet paper. All the plumbing pipes should be flushed at frequent intervals with approved disinfectants.

When, under the most favorable circumstances, a well-aired, quiet room and a comfortable bed, neither too soft nor too hard (a good hair-mattress cannot be improved upon), sleep has not been refreshing, look for the reason within yourself, and be not satisfied till it is found and remedied: for you are defrauding yourself and only half-living till you have learned what measure of health, serenity, and enduring strength can be obtained through

normal sleep. To waken tired in the morning should be considered a danger-signal as much as insomnia. Sleep should be a state of perfect rest; and all the surroundings should be so conditioned as to favor complete, undisturbed repose. There should be nothing upon the mind, no duty carried which requires awaking at a given hour or attention to a given signal, because this implies that the sub-consciousness must be alert. "Let the book of life be closed, even on a blotted page, before sleep is sought."

Undisturbed repose is vital nourishment to both body and mind; but, in order to obtain the coördination of our complex organization, healthful use and activity are necessary. It is the want of this which causes disturbed sleep, nightmare, dreams, and insomnia. The secret of preserving a proper equilibrium, in the waste and wear and the repair of body and mind, is to make the exercise of the one the relaxation of the other. That is, the brain-worker must find his relaxation in physical exercise, and those engaged in manual labor should find their pleasure in some use of the brain.

As explained in a previous chapter, the exhaustion of brain-work is twofold and much more rapid than that of manual labor. The waste of nerve and muscle is very great, while the inaction of the body encourages torpidity of all the organs of elimination. It is suicidal to urge on the languid brain with stimulants which make dangerous drafts on capital. At the first sign of fatigue it is an economy of time and strength to take the proverbial "forty winks." A caution, however, is necessary against the demoralizing habit of dozing. Sometimes this is the sole cause for disturbed, light sleep, as farther explanations will prove.

Sleep is a more complicated function than is generally understood. Fatigue of the muscles alone is not sufficient; fatigue of consciousness is also demanded; and the whole sympathetic system of nerves has to be lulled into quiescence before general sleep can be induced to seal the

Dozing, which is but half-sleep, promotes disturbed action between the different nerve-centres by giving to some nerves all the rest they need. It demoralizes both mind and will-power, robbing its victim of self-control. The half-doing of any thing is iniquitous in its results, and saps all the foundation stones of success. People who doze in the evening coddle insomnia; and those who doze in the morning woo headaches, dullness, and weariness.

There is everything in the formation of a habit of sleep. The better trained the nervous system is to this the more perfect and restful will be the sleep; for it is a rhythmical function and only habit can perfect it, just as raw recruits cannot march like trained soldiers till they have been drilled into a habit which carries them along in rhythmical motion. "The law of the harvest is to reap more than you sow: sow an act, and you reap a habit; sow a habit, and you reap a character; sow a character, and you reap a destiny."

The more systematically we can bring ourselves to perform our daily duties the easier it will be to acquire an orderly habit, throughout the complicated nervous and muscular systems, of yielding obedience to the command for repose. Haphazard methods of work result in disorder and a sort of free-for-all, run-as-you-please form of action in the different nerve-centres. Sensitive and emotional women are habitually poor sleepers, because they live at the mercy of their nerves, controlled only by a misdirected will instead of a well-poised brain. Freedom of will was bestowed upon man as a servant of reason, and when we promote it to the dangerous authority of Dictator it too often makes unbridled use of the power. This mysterious force, by whose aid we can scale the heights of elysium, drags us to the depths of despair when the guiding hand of reason is withdrawn, and its merciless waste of nerve-force is the cause of most nervous disorders, proving them to be self-inflicted.

"You purchase Pain with all that Joy can give,
And die of nothing but a rage to live."

It is a misapprehension to suppose that the reckless expenditure of nerve-force is confined to the higher class of workers. Those who are perfectly free to order their lives in the most healthful manner squander it quite as freely and more senselessly; some being bond-slaves to pleasure and others to so-called "energy" or "industry." That much-vaunted habit of saving time by always having ready a bit of pick-up work must be viewed from two standing-points: The woman who is exposed to many neighborly interruptions or in whose family there is one laggard who always delays the starting on any expedition whatsoever, may find in the ready bit of employment for her fingers an anchor for her patience during hours that would otherwise be frittered away. But she who carries the habit to the point of always keeping her fingers busy, whether at lecture, reading, or musical, is making a merciless draught on her nerves which performs no small part in precipitating the inevitable breakdown.

Such incessant activity, beyond all the necessary expenditure of force in the unavoidable work of life, is one of the ways in which many women are committing slow suicide every day of their lives. This sort of employment is wasted energy. It is trying to do two things at one time, neither of which will be done well. Neither mind nor soul will derive the same benefit from the supposed entertainment or instruction that would be possible if undivided attention were given. Then, aside from this, the constant motion of the fingers and hands wears upon the nerves and their head-centre, the soul. A besetting sin against self with a host of women is that of considering fancy-work *rest*, than which there is no more fatiguing work for the eyes and part of the body.

There are a host of physical automatisms which contribute their part in many lives as energy-wasters: of these are

or apparent physical or mental state can be discovered. These are the very ones which are precursors of serious disorders of the brain and nerves, as meningitis, typhoid fever, and insanity. The increasing prevalence of the trouble should excite earnest attention, but, except among nerve-specialists, who recognize insomnia as a serious menace to health and longevity, there are few who seem to appreciate at all the grave peril to humanity in these painful signs that sleep is fast becoming a lost art.

In not a few cases the originating cause is trivial in comparison with the disastrous effects which ensue when this abnormal condition becomes a fixed habit. But just as insomnia grows more and more a destroying monster when it is left to run its course, so is it possible in a great many cases, probably the majority, to prevent it, or even to overcome it, by cultivating a habit of restful sleep.

"When a certain series of nervous acts have once taken place, there is a tendency to their repetition, the tendency growing stronger and stronger as the number of repetitions is increased." It is because of this law that the careful use of certain narcotics is, at times, beneficial, for they break up the habit of insomnia and set up the nervous impulse which prompts to natural sleep. The habitual use of any sedatives, however, is most pernicious. They should never be used more than two or three nights in succession, else the system will learn to depend upon the artificial suggestion. All narcotics and sedatives act, in only lesser degree, like anæsthetics and are really hypnotic, simply producing a state of unconsciousness resembling sleep. The drug acts directly upon the cellular structure of the brain, reducing the molecular movements by a sedative action. The benefit is, that the stupor thus produced often passes into a natural sleep after the poison of the drug has been eliminated from the blood and its influence is entirely dissipated.

This fact should never be lost sight of and should govern the choice of the drug used. From the data I have ob-

tained, sulphonal is the safest and least harmful of these remedies, as there are positively no after-effects. It quickly disappears itself, and is usually followed by natural, restful sleep; it sets up no craving for a repetition of the dose; or, worse still, for a stronger one; and it really seems to act only as a staff for the exhausted nerves while they gather strength to act alone. The use of opium, morphine, chloral, and chlorodyne for this purpose cannot be too strongly condemned. It is very generally recognized that the first three are edged tools whose use is warranted only when life is at stake. But chlorodyne is prescribed by reputable physicians for nervous women suffering from headache, exhaustion, and incipient ails, when they would not dream of giving any other of this dangerous quartette. Yet, as a matter of fact, it yields nothing in point of insidious after-effects to the others, and creates a morbid craving quite as difficult to overcome.

Chlorodyne is a powerful anodyne compounded of morphine, chloroform, prussic acid, and Indian hemp, flavored with sugar and peppermint. Someone has said there are forty grains of morphine in an ounce of chlorodyne, but this statement I cannot vouch for. What I can affirm positively is, that once an appetite for the poison is formed there is a constant craving for increased doses,—often an ounce or more a day is taken,—and also for alcoholic stimulants of all and any sorts, the stronger the better. The sense of taste becomes so dulled and jaded by its use, that many men could not swallow without a grimace the doses that delicate women take without the quiver of an eyelash. It weakens the moral sense even more than morphine and opium, and affects the brain so seriously that the resulting excitability cannot readily be distinguished from organic insanity.

The supposed harmlessness of the stuff has led me to this *exposé* of its true character, for no woman knowing its nature would voluntarily swallow the first drop of it. Its sale ought to be as cautiously restricted as is that of all

entered into my sleep. It is much more restful than I ever remember enjoying even when a child. And nothing that has ever been claimed concerning the force of habit proves it more conclusively than my experience, for within a month I began to see that my nerves were proving apt pupils in learning the pleasant trick of going to sleep as soon as they were released from duty. Moreover, the test was begun and so successfully carried on while I was passing through intervals of quite unusual brain-fag and nervous exhaustion, which under the old order of things would have precipitated attacks of obstinate insomnia.

So surprising and admirable results, achieving in a short time what years of persevering effort—aided by medical treatment, change of climate, weeks of travelling in vain search of quiet places where sleep was possible, and every other expedient usually prescribed for the poor victim of insomnia—had failed to more than temporarily relieve, convinced me that the process or method was Nature's own; and, hence, I endeavored to seek the physiological basis. The rationale I believe to be this: The upward turning of the eyes shuts off the current of vibratory force which conveys consciousness of outward things and control of thought to the brain.

The strongest modern opinion which I have found bearing weight upon this theory is that of the German physician Dr. Rosenbaum (*"Warum müssen wir schlafen?"*—Why must we sleep?), who believes that the action of the eye has an important office in producing sleep; and he frequently asks why the nerves of the eye are the only ones which have any duty to perform in connection with sleep if this be not so. They are an exception to the rule that all the nerves of sense yield themselves involuntarily to the sway of sleep, but undergo no change.

Known physiological facts are: that the eyes are always turned upward during sleep, and that a sign of true sleep is the contraction of the pupils. The latter phenomenon,

Mortimer-Granville suggests, "is probably produced by suspension of the sympathetic nerve action which holds the pupils dilated. The sympathetic system of nerves must lower function throughout the body to a minimum, in the scale of energy, before general sleep can be established."

Plato believed that the fire of the eye received from external excitants was shared with the other senses, and that the closing of the eyelids excluding this soothed all to quiescence. Modern science would call "the fire" vibratory force, and the great philosopher was speculating in the right direction. But he had not noticed that the most concentrated thought can be pursued with the eyelids closed over eyes held normally or cast down! So it is not the shutting of the eyelids but the upward turning of the eye which severs connection with the distracting world, and induces that closer embrace of the *Pia Mater*, enfolding the brain, that is a phenomenon of sleep and is supposed to have some connection with it by lulling to rest.

With reference to the amount of sleep necessary, one aspect of the subject is, perhaps, very generally unknown, certainly overlooked. Extremely energetic, strong people are quite apt to take a virtuous pride in limiting themselves to four or five hours of sleep, really grudging that and considering more a disgraceful evidence of laziness and a reprehensible waste of time. Now, viewed simply from a purely material and hygienic point, it is an error. It is quite possible to accustom yourself to so little sleep as to be greatly the loser thereby. It may not show immediately, but it will in the end. From seven to eight hours of sleep are needed by all people leading active lives, and brain-workers can least of all afford to cut down their allowance. If for any reason it is occasionally necessary, it should be made up by extra sleep as soon as possible. Any other course undermines the strength insidiously, and the penalty is invariably a breakdown of some sort. The severer the tasks imposed upon the brain, the more sleep it should be allowed.

But where are we in sleep, and why has Divine purpose imposed this state of oblivion upon us during a third of our lives? Is it time wasted, or a season of growth?

The ancients always recognized a mysterious connection between the soul and sleep. Iamblichus, head of the Neo-Platonists, believed "The night-time of the body is the day-time of the soul." Mr. John Bigelow takes this as the motto of his book "The Mystery of Sleep," in which he has accumulated many facts to support this beautiful, comforting, and important theory. "Man is captured in sleep, not by death, but by his better nature." Our first thoughts upon awakening are often our best thoughts, the thoughts of inspiration; and there are few brain-workers who are not visited by inspirational moments, during the night, when if the thought is not seized and written down it proves as evanescent as a dream, and cannot be recalled by any process of conscious reasoning.

Pliny the Younger believed sleep a withdrawal of the soul; which is only another way of saying that the soul has other and higher business to attend to, and must at stated intervals be relieved from the belittling distractions of worldly material things, that hamper its growth and dull all spiritual intuitions. Mr. Bigelow reminds us "that sleep is never referred to in the Bible except with reference to some of the most vital processes of spiritual growth or regeneration." And he believes "The Bible has scarcely less importance than is claimed for it by Bible Christians, in proving sleep to have been recognized in all ages as a prime factor and an indispensable condition to man's spiritual evolution."

If this be so it fully answers our first question concerning the importance of sleep; and I believe that, accepting the clue of the upturned eye as a finger-post pointing to the realm of sleep, no obstacle but a perverted will prevents our entrance thereto.

With regard to early rising, Charles Lamb utters some

words of wisdom. He had no ambition to be one of the sun's courtiers and attend his morning levees; and especially he believed in a leisurely method of rising which gave time "to collect the scattered rays of a brighter phantasm, . . . to handle and examine the terrors, or the airy solaces" of our dreams. He entertained "too much respect for these spiritual communications to let them go lightly." And he thought "The abstracted media of dreams seem no ill introduction to that spiritual presence upon which, in no long time, we expect to be thrown"; so he tried to spell in dreams "the alphabet of the invisible world."

A large volume would not suffice for the record of the wonders wrought by dreams. What is more probable than that in the strangely sweet oblivion of sleep our souls are admitted to sacred mysteries, and that sleep is revivifying and accomplishes its Divine purpose in proportion as we possess our souls in serenity and confidence? It is in this state alone that life pulsates with joyful, vitalizing rhythm.

ENVOI.

As I bid my book God-speed, dear reader and friend, I would emphasize the purpose which has animated the writing of it, by again repeating: "I want to help you to grow as beautiful as God meant you to be when he thought of you first."